M. A. Williamson, Publisher — Douglas G. Woolf, Editor

William B. Dall.....Managing Editor
Winn W. Chase.....Associate Editor
Howard P. Galloway.....Assistant Editor
Mark E. Wood.....Assistant Editor
H. S. Knowlton.....New England Editor
William G. Ashmore.....Southern Editor
Earle Mauldin.....Southern Editor
Paul Wooton....Washington Correspondent

William Buxman .....Manager

Textile World

NEW YORK
ATLANTA

NOVEMBER 1939

BOSTON
GREENVILLE

A McGRAW-HILL PUBLICATION

Management

Sure It's Permanent . . . But for Whom? (*Editorial*) 57
The Editor Says 58
Textile Industry Takes Prosperity in Its Stride 60
Keep Production and Sales in Check, Says Murchison 62
NACM Fails to Stump Experts at Boston Meeting 64
First Legal Attack on Wage-Hour Law 66
Rayon Weavers Hold Annual Meeting 67
Modernization for Profit (Money Making Methods) 85

Merchandising

Greenville Gives a Cotton Festival 69
War's Effect on Textile Markets 60
Nylon Hosiery Placed on Sale 148

Mill Engineering

Textile Equipment News 73
Equipment Check-Up Section 85

Men

"What About Legal Holidays?" 137
News About Men 151

Materials

Vinyon Production Plans Made 68
New Chemical Products 76
Staple Fiber Uses Increase 149

Methods

Spreading Knitted Fabrics—Tables for Correct Width 70
Preventing Neps in Woolen Yarn 72
Equipment Check-Up Chart 115
Scratched Printing Rollers—Common and Uncommon Causes . . 139
Slashing and Weaving Discussed by Georgia Executives 140
Production and Waste Discussed by STA 141
Staple Cotton Fabrics 144
Loomfixers' Manual—Cotton 145
Loomfixers' Manual—Wool 146

ANNUAL EQUIPMENT CHECK-UP NUMBER

Modernization for Profit Features Begin on Page 85

Detailed Index Appears in Check-Up Chart at End of Section

DEPARTMENTS

News of the Month.....147
New Publications 77
The Overseers' Corner.....137
Questions and Answers.....142
New Machinery and Processes.....73
Texfile Calendar 149
New Dyes and Chemicals.....76
News of Suppliers.....78
Free for the Asking.....82
News About Men.....151
Textile Mill News.....162
Overseers' Practical Helps.....138

TEXTILE WORLD (formerly *Textile World Journal*) with which are combined *Textiles*, *Posselt's Textile Journal* and *Textile Advance News*. Published monthly. United States and Possessions, Canada and Latin American Republics, $1.50 per year; all other countries, $2, U. S. currency or 12 shillings. Single copy 25 cents.

Of this issue, 13,540 copies were printed

Member of Audit Bureau of Circulations
Member of Associated Business Papers, Inc.

Contents copyrighted, 1939
by McGraw-Hill Publishing Co., Inc.

McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York, N. Y.

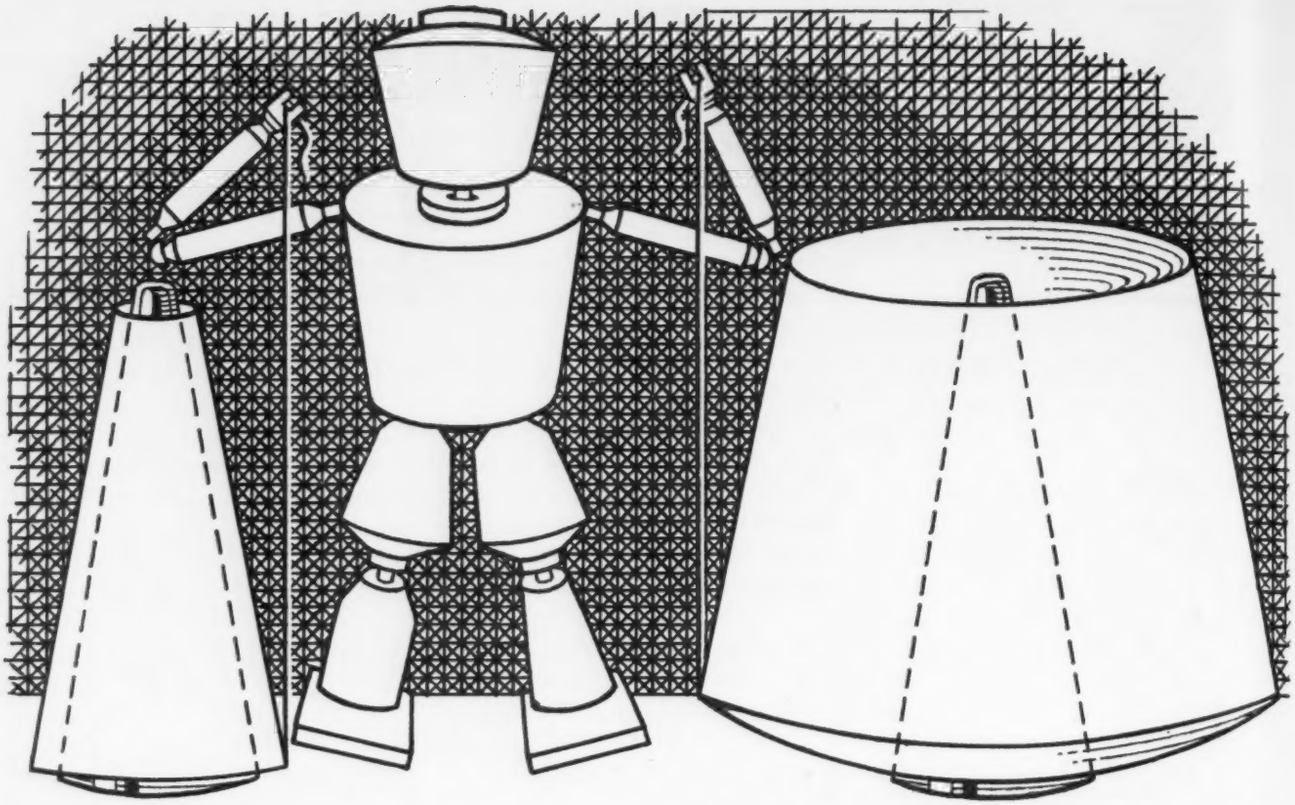
JAMES H. McGRAW, *Founder and Honorary Chairman*

JAMES H. McGRAW, JR., *President* — HOWARD EHRLICH, *Executive Vice-President* — MASON BRITTON, *Vice-Chairman*
HENRY G. LORD, *Vice-President* — B. R. PUTNAM, *Treasurer* — D. C. McGRAW, *Secretary* — J. E. BLACKBURN, *Director of Circulation*

BRAGDON, LORD & NAGLE DIVISION

FRANK L. NAGLE, *Chairman* — HENRY G. LORD, *President*

Atlanta.....*1105 Rhodes-Haverty Building*
Boston.....*1427 Statler Building*
Chicago.....*520 North Michigan Avenue*
Greenville, S. C.....*310 Woodside Building*
Philadelphia.....*16 South Broad Street*
Washington.....*National Press Building*



ROTO-CONES DELIVER FREELY

on knitting machines

The groove in the patented rotating traverse of the Roto-Coner is designed to build up the base end of the cone faster. While the taper of the paper cone is 9°36′, the taper of the package constantly increases during the winding. Thus, when feeding the knitting machine, the yarn will deliver from any diameter without dragging over the nose or surface of the cone.

The grooving of the rotating traverse also results in a reduction in underwinds which cause press-offs. The yarn is quickly reversed at the ends of the traverse, providing correct lay of yarn on the cone.

Roto-Coners are now operating in close to 100 mills in this country and in many mills abroad. Yarn mills report their satisfaction with the higher winding speed, the lower maintenance cost due to absence of cams and reciprocating parts, and the improved quality of the yarn.

Knitters benefit from the elimination of roll cuts, the cleanliness of the yarn and the soft character of the cones due to uniform density.

Dyers report more even penetration of the dye, because there are no hard ends.

The Roto-Coner, equipped for winding wood cones, has also taken its place successfully in the Universal System of High Speed Coning and Warping.

Bulletin 144 describes the Roto-Coner for knitting yarns and dye packages; Bulletin 244 for high speed warping yarns.

ROTO-CONER SEESOVA

UNIVERSAL WINDING COMPANY P. O. BOX 1605 **PROVIDENCE, R. I.**

BOSTON · PHILADELPHIA · UTICA · CHARLOTTE · ATLANTA

TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

Sure It's Permanent . . . But for Whom?

ONE OF THE MOST dangerous ideas a textile man can entertain is the idea that the textile industry is permanent. The fact that it is fundamentally true makes it even more dangerous.

The trouble is that the textile manufacturer usually goes on to conclude that just because *the* textile industry is permanent, *his* textile industry is permanent. "Textiles are a basic necessity," he argues. "People will always wear clothes."

With the exception of Bali, certain parts of the World's Fair, and other hot spots, the latter statement is probably correct. The only thing the speaker forgets is that it may be two other fellows who will supply the clothing of the future.

We have been preaching this doctrine year in and year out for more years than we like to remember. And we got the thrill of our life last month when we saw it dramatized by the Textile Foundation's little group of serious thinkers at the National Association of Cotton Manufacturers convention in Boston.

Nominally they were discussing research, but actually they were discussing change: that thrilling, disturbing, promising, annoying, vibrant state of flux which has characterized the textile industry for the last two decades, and which gets more so every year. When they discussed research, the experts were merely talking about what the industry must *do* to meet this continual change.

In every statement made on that platform at Boston, there was reflected this moving force. We heard of the need for a completely new attack on the inventory problem; for a re-orientation of the parts of our manufacturing and distributing organizations; for a different approach to the training of men for the textile industry. We heard a scientist say that during all these years when we thought we had been studying cotton in the laboratory, we may have been studying pectin, since that material is on the outside of the cotton fiber! We heard something about the way in which synthetic fibers have broken down the barriers among the textile fibers, so that gradually the terms "cotton weaver," "wool weaver," "silk weaver," etc., are being replaced by just "weaver." We heard a hint that spinning and weaving may no longer be the main processes by which fibers are converted into cloth.

That last seemed to produce the greatest sensation. And yet, over eight years ago on this page (March 21, 1931), in commenting on a method of making a carpet without benefit of spinning frame or loom, we raised the question whether completely synthetic fabrics were not a possibility of the future. And as recently as September of this year, in our rayon number, we peered into the future and recognized the possibility of complete replacement of natural fibers by synthetics, as well as the possibility of fabrics whose manufacture might by-pass the preparatory equipment, the spinning frame, and the loom.

In 1931, we qualified our remarks as follows:

"We have no desire to be an alarmist. We see no nearby threat to our looms and other standard equipment. Textile fabric, during the next decade, will not become just one of the plastics."

THAT DECADE is nearing its end, and the standard equipment is still safe; therefore the qualification was justified. But another decade is ahead—and decades move faster now than ever before. More things happen; more changes take place. Safety of the last decade is no assurance for the next. There are developments under way which make this statement particularly true at this moment.

And so we feel we should repeat, and re-emphasize, the closing paragraphs of our 1931 editorial:

"But we do know what chemists and engineers, working together, can accomplish. And we believe it advisable for every textile manufacturer to be alive to the spirit of change; to meet new developments, not with sneers, but with an open mind. 'Standard' methods of today may be obsolete methods in 1950. And the man who keeps pace with such industrial revolutions is the man whose industry can really be regarded as permanent. The others sooner or later advertise liquidation sales of machinery."

1950 is eight years nearer than when that was written. And seven and a half million cotton spindles, alone, have been liquidated during that time. Those who want to be still running their own show in another eight years will do well to recognize some of these changes before instead of after they occur.

That's what they were talking about up in Boston.

THE EDITOR SAYS

The Industry Thinks So, Too

ON THIS PAGE, last month, we said:

"If there is one way to give up in advance such profits as may accrue from the present favorable situation, it will be through unsound sales and production policies. Such policies hardly have to be named; they are ghosts at every textile feast. Acceptance of orders for too long a period ahead; a rush to third-shift operation; these are the vicious pair which ruined a perfectly good textile market in 1937."

That a substantial part of the industry feels the same way about it was the good news brought to the annual meeting of the Cotton-Textile Institute by its president, Dr. Claudius T. Murchison. Speaking for himself, and for many executives and association officials with whom he had conferred, he urged: (1) holding production within normal limits; (2) avoiding excessively long-time contracts.

One encouraging feature in the present improvement, as contrasted with the situation in 1937, is the fact that today there is little disposition on the part of sellers to take on orders beyond three months, whereas in 1937 the sky was the limit. Probably grim memories of the old debacle which followed then, are responsible for the restraint this time. Let's hope that reticence continues.

On the matter of production restraint, many groups are performing excellently but others are rushing to third shift.

It is a sad commentary on our national situation that industry is prevented by law from taking steps to prevent this anarchy which ruins millowners, employees, and the general public. The institute is right in focusing attention on the need for legal relief. That is the big job for the next year.

Meanwhile, those who feel like breaking over the traces might take time out to look over the records of their own companies in 1936, 1937 and 1938. They might then change their minds.

An Easy Way to Keep Out of War

WE HAVE NOW had more than two months of "war." We put it in quotation-marks because to some extent it has not lived up to what might be expected when great nations depart from peace. Some observers seem to resent this fact. From our standpoint, the less the better.

Most people still talk glibly about keeping this country out of war. They talk about staying neutral. And yet, of course, most people are not neutral. The best line, to date, was ascribed to an Irishman who said: "Sure, I'm neutral, but I haven't made up my mind whom I'm neutral against." The only difference is that most of us know whom we're neutral against.

Just the same, we still want to keep out of war. What's the best way of doing that, when we are admittedly not neutral in our thinking?

To this writer, there is a very simple answer. Instead of thinking of countries at war, and of ideologies in conflict, suppose we think of people at war. Take any one of the 800-odd men who lost their lives on the Royal Oak, for example. Think of the family of that man—his wife, possibly; or his children; or his mother; or his fiancee. And then apply that to yourself or myself. Do you or I want to lose a son or a brother? Does your mother or father, or my mother or father, want to lose a son? Does any close friend of yours or of mine want to lose a husband, or a fiance, or a brother? Is there anything in this European picture which justifies that sacrifice to you or to me or to our family or our friends?

The answer is obvious—and obviously no.

It isn't that we haven't a stake in Europe. Of course we have. The decision in this war, when it comes, will affect this country far more profoundly than did the decision in the last war. There is no such thing as isolation, in the world of today.

Granted all that, we still do not want to go to war. Are we to be pushed in that direction by propaganda, by a desire to protect profits in war stocks, by a wish to continue a boom? The answer, again, is obvious, and obviously no.

And so we urge each reader of this page to translate the news of this new war into personal terms—to think of it as it might affect his son or his daughter or his wife or his mother or his friends. If we all think that way, the United States will *not* go to war.

He Practices What He Preaches

COORDINATION, like religion, has to be practiced as well as preached. Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, practices what he preaches. One of his outstanding achievements in that direction was the formation of the National Council of Textile Industries, referred to at length in previous issues of this publication. Another medium which he uses toward the same end is his coordination conference, held the day before his annual meeting each year. At that conference, as noted elsewhere in this issue, executive heads of related associations get together and frankly discuss the major problems confronting the industry as a whole. This year's meeting was so successful that the frequency of these gatherings is to be increased. Personally, we also have hopes that the scope will be broadened so that other branches of the textile industry may come to be identified in this vital movement.

We have been in this fight for a good many years—first for an American Textile Institute, and then, as a compromise, for a Council truly representative of the industry. We are approaching the latter realization. The more it is hastened, the better for everyone engaged in the industry, both employers and employees.

Our slogan has been: Eventually,

IF YOU WANT TO MAKE MONEY . . .

Turn to page 85. That's the beginning of our Annual Equipment Check-up Section, featuring **Modernization for Profit.** After you read all the ways you can make money, turn to the check list on page 115, and see how many you are using in your own plant.

In This Issue

EQUIPMENT CHECK-UP SECTION

Money-Making Methods 85
Modernization for Profit, articles begin..... 86
Equipment Check-Up Chart and Index..... 116

COTTON

Keep Production and Sales in Check, Says C. T. Murchison..... 62
N.A.C.M. Fails to Stump Experts at Boston Meeting 64
First Legal Attack on Wage-Hour Law..... 66
Greenville Gives a Cotton Festival..... 69
Spinning Frame Creel..... 75
High-Speed Warping Cuts Costs..... 89
Looms Operate at 182 Picks per Minute..... 102
Improves Cotton Weave Room Conditions.... 91
Improves Slashing of Cotton Warps..... 107
Slashing and Weaving Discussed by Georgia Executives 140
Production and Waste Discussed by S.T.A.... 141
Card Sliver Tests..... 142
Staple Cotton Fabrics..... 144
Loomfixers' Manual—Cotton..... 145

WOOL

Industry Takes Prosperity in Its Stride..... 60
Preventing Neps in Woolen Yarn..... 72
Wool Spreader 74
Fulling Mill Counter..... 76
Better Scouring with Instruments..... 86
Winder Production Increased; Fatigue Lessened 103
Increases Loom Speed; Raises Fabric Quality 113
Drying of Raw Stock Improved..... 107
Mohair Stock Stained..... 143
Loomfixers' Manual—Wool 146

RAYON & SILK

Rayon Weavers Hold Annual Meeting..... 67
Vinyon Production Plans Made..... 68
Over-End Doubler Twister..... 74
Tinting Equipment 75
Increases Doubler-Twister Production..... 87
Light Raised to 20 Foot-Candles..... 88
Economies in Water-Softening for Throwing.. 92
Silk Recovered from Imperfect Hosiery..... 92
Maintains Proper Regain in Thrown Silk.... 98
Energy Drive Boosts Loom Production..... 100
Weaving Acetate Satin..... 142
Rayon Filling Trouble..... 142
Don't Weight Silk Thread..... 143
Nylon Hosiery Placed on Sale..... 149
Staple Fiber Uses Increase..... 150

KNITTING

Latest Wage-Hour Developments..... 66
Spreading Knitted Fabrics—Tables for Correct Width 70
Knitting Loom 73
Gives Versatility in Half-Hose Mill..... 87
Spends $250,000 to Modernize Hosiery Plant.. 96
Reduces Seconds, Increases Output..... 105
Inspecting Form Exposes Hidden Defects.... 106
Controlled Humidity Reduces Yarn Breaks... 108
Colored Specks in Knit Fabric..... 143
Holes in Football Jerseys..... 143
Nylon Hosiery Placed on Sale..... 149

PROCESSING

Improved Power Perch..... 73
Pneumatic Package Dyeing Machine..... 74
Tenter and Dryer..... 75
Fulling Mill Counter..... 76
Dyeing Improved, Costs Lowered, by Thread Company 88
Continuous Washer Speeds Up Production.... 92
Ventilators Resist Corrosion..... 96
New Dyehouse Saves $15,000 Annually..... 99
Lengthens Life of Tenters..... 106
Colored Specks in Knit Fabric..... 143
Mohair Stock Stained..... 143

why not now? The "now" comes nearer and nearer all the time, thanks to the practice of men of the Murchison type.

From Our Mail-Bag

NEW YORK

Editor, TEXTILE WORLD:

I always read the TEXTILE WORLD with interest but I have been particularly pleased with your editorial in the October issue—"Out of Chaos Comes Heroism."

It seems to me that you hit just the right note in this editorial and have expressed for many of us what we have been thinking but could not put into words. My congratulations!

ALBERT L. SCOTT, *President, Lockwood Greene Engineers, Inc.*

PHILADELPHIA

Editor, TEXTILE WORLD:

Just a word to say how pleased we are with your presentation of Col. Brown's article in your October issue. We were especially interested in your editorial introduction to the article and should like to quote from this to some extent in "*Making the Grade.*"

In this same letter, may I take occasion to express gratitude for the strong editorial by Mr. McGraw on business' stand against war. I have noted this same editorial in other McGraw-Hill publications and have violently applauded it in each instance. I can't help but feel that this kind of outspoken editorial will do a great deal of good, particularly if followed up with others in issue after issue. All of us here were greatly excited at first about keeping America out of war, but some of us seem now to be getting rather apathetic on the subject.

If the whole citizenry were to keep flooding Government officials and congressmen with letters demanding that nothing be done that would tend to bring this country under any circumstances into war, I don't believe we would ever get in. But most of us expressed our feelings and shot our bolts in the first few weeks. This explains why voices like yours should persist in pointing out the danger of America's involvement and keeping a clear picture before us, undistorted by subtle propaganda and hysteria.

I am one reader of TEXTILE WORLD who would like to see a strong editorial along these lines in every issue.

HARRISON M. TERRELL, *The Lavenson Bureau*

PHILADELPHIA

Editor, TEXTILE WORLD:

I understand you did a rather neat job of spanking Secretary Wallace in your August number. I wonder if you would be kind enough to send me a copy of the editorial. BEN HIBBS, *Associate Editor, Country Gentleman*

And, after receiving it:

Thanks very much for sending me a copy of your editorial on the cotton situation. It is one of the strongest statements on the subject that I have seen. You are to be congratulated for speaking out in such a lucid manner.

BEN HIBBS

Takes Prosperity in Its Stride

Textile industry shows it can handle good times as well as bad

By DOUGLAS G. WOOLF

THE TEXTILE INDUSTRY is still showing that it can handle prosperity, as well as adversity. And this is rather surprising, because while the old-timers were to the manner born, most of the new-comers, say those who entered the industry in the last 15 years, haven't had much occasion to run up against prosperity.

The restraint with which sellers have met the completely changed situation of the last two months has been admirable. Its most important manifestation was in reluctance to accept orders too far ahead.

Of course, the quiet of October, compared with the fireworks of September, made such restraint easier of attainment. If buying activity had continued at the rate of those first few hectic war weeks, it is hard to tell how long the market could have withstood the strain.

However, in other directions too the industry has put on a good performance. Price advances have not been of the hysterical type. Even at the top they were not inflationary; in fact it is recognized that there is still room for increases, in fairness to sellers.

One important test will come if this present quiet continues. If history repeats itself, sellers will become more and more jittery, and gradually end up at their old game of giving away their shirts. There is less reason for it this time than ever before, in view of the good back-log of orders. But sometimes the industry forgets such facts. Consequently the price policies of the next two months will be scanned just as closely for firmness, under quiet conditions, as for restraint under the boom.

On production policies, there is a general profession of belief in the wisdom of normal operating schedules, and of determination to follow them. In many cases the observer wonders if manufacturers aren't protesting too much. The tendency to extend to the third shift, and to bring old, formerly idle, equipment into action is breaking out in spots like a rash. It needs to be watched pretty carefully to determine whether it's just a little eczema, or a really serious contagious disease.

Meanwhile, the debate goes on as to how much of the boom is "natural" and how much is war stuff. Obviously, there is no answer. However, it is interesting to look back over textile activity thus far this year and to recognize how sharp the improvement over 1938 has been.

The first three quarters of 1939—of which, of course, only the last month was a war month—registered a 28% increase in poundage consumption of textile fibers over the corresponding period of 1938. Breaking this down by branches, cotton consumption was 25% up, wool 56% up, filament rayon 28% up, and rayon staple up by the staggering amount of 90%! Only silk consumption was off—being 4% down from 1938.

Consequently, it is evident that improvement set in long before the start of the war—and in fact was impeded mostly by the threat of war. However, the main thing that the outbreak of hostilities did for textiles was to re-establish a profit margin. Prior to September, most of the business taken in most branches of the industry showed either very little profit or an actual loss.

How long this new margin can be nursed along, and whether or not it can be converted into a permanent part of the textile picture, represents the main question today. Thus far, the action of the industry itself encourages a belief that it intends to adopt this war-baby, profits, for keeps.

NOW FOR THE individual branches of the industry:

Cotton: Business in cotton goods in October was quiet, with prices firm. Comparing this boom with the last one on record, 1937, it is recognized that the main advantage this time is the absence of long-term sales commitments. Also, the stability of the raw cotton market itself is a great factor. It will be recalled that cotton went up in the last boom and then crashed. Here, the Government loan holdings—object of much warranted criticism—exercise a helpful influence in that they tend to prevent sharp advances with subsequent collapse.

From our office in the South comes the following information: Business outlook there is excellent for the next several months, with many plants sold well ahead. Employment managers are guaranteeing full time through January and February and are searching for additional skilled labor in many places. Executives are unanimously optimistic and do not seem to worry about third shift, which is rapidly being restored. They feel that the current business tone is due to generally improved conditions rather than to war orders, pointing out that improvement started before the outbreak of the war. However they all admit that the duration of the boomlet is definitely tied in with European developments. Little if any thought is being given to the evils which will result from over-expanding production if it runs wild. They want all they can get now.

Combed yarn mills are adhering to their established schedule of two shifts of 40 hours each in the spinning room, according to a report made by Mildred G. Barnwell, executive secretary, Southern Combed Yarn Spinners Association, after a recent field survey. It was pointed out that combed yarn mills in the South are so balanced today that a third shift on spinning machinery could not be accommodated. Mrs. Barnwell's survey showed that combed yarn spinners preferred a balanced and continuous employment schedule for their workers, which has been obtained by the voluntary two-shift program adhered to by combed yarn mills since 1933, instead of probable sporadic employment which would result from a three-shift program.

In a study of the price range of 25 southern cotton mill stocks 1923-39, R. S. Dickson & Co., Charlotte, N. C., point out that a gain of $10.77 per share average has been recorded during the third quarter of this year but that a further advance of $23.03 average is still necessary to reach 1937 levels. With a gain of approximately 25% already realized from the low of 1939, it is necessary for the averages to advance 31% further before 1937 levels will be realized.

Wool: Raw material is off 10% in price through October. Great Britain has bought Australian wool at a favorable price. Goods business is sluggish, but mills have a good back-log. Eventually war orders are likely to tighten the domestic situation to a considerable extent; sudden end of war would be a weakening influence.

In the opinion of Moses Pendleton, president of the American Woolen Co., woolen and worsted prices are definitely stabilized for the current spring season. Owing to shipping hazards and the difficulty of importing foreign wool, he stated, the United States is obliged to rely at present on her domestic supplies, which in normal times are inadequate. He counseled the industry to disregard the availability of foreign wool as a factor in determining the cost of woolen and worsted products in the United States for the ensuing spring season.

On Oct. 15 details were announced on the agreement reached between the British Government and the Governments of Australia and New Zealand for the purchases of the wool clips during the war and one clip thereafter. The agreed upon price was 10.75 pence per pound grease basis for Australian wools and 9.8 pence for New Zealand. The total clip is estimated 2,815,000 bales. The feeling in the trade is that the price is moderate. A certain quantity of the wool will be released for American use later on. It was also understood that the British Government would buy a sufficient quantity of South African wool to insure prices there at least on a parity with the contract prices for the Australian wool. The wool administrator in Canada has fixed a price for Canadian quarter-blood wool clean, at 45¢ per pound.

With diminishing imports of carpet wool, all of which comes from abroad, carpet mills can look forward with a certain amount of certainty to some time next year when their supplies will reach a disappearing point. Use of synthetic fiber for carpet pile, already started in a small way, will doubtless develop to a point of real interest during 1940.

Rayon: There is a slow upward movement with yarn and fabric men trying to avoid speculation. Prospect is for steady gains as war progresses; sudden end would take edge off market.

Silk: Raw silk prices here reached a nine-year peak in October, following the burst of strength in the Japanese market, where quotations rose to levels not witnessed since the early part of 1926. Obviously, this tends to restrict the consumption of silk, particularly in woven goods, where weavers are turning to other fibers, with the result that full-fashioned hosiery now takes the great bulk of the available silk.

Knit Goods: The war will affect the market principally when and if hosiery and underwear orders from the allies are placed here; otherwise the effect will mainly be through raw materials. Anticipation is that war business will be an important factor in 1940. Shipments of all kinds of hosiery from domestic mills for the first nine months amounted to 100,875,407 doz. prs., an all-time high record and 7.7% above the similar 1938 period.

Finishing: Activity in finishing plants has increased, but of course not to an extent comparable with the boom in weaving. There is always a lag between a spurt in gray goods buying and a similar reaction in finishing. The length of this lag depends to a considerable extent on how much of the gray goods buying is speculative and how much is for actual consumption. The most encouraging feature in the finishing business at present is that prices have been advanced in both cotton finishing and hosiery finishing. Such advance was badly needed as business was previously on an unprofitable basis. It is believed that, generally speaking, current prices permit a profit.

Here Is a Caution Light

A realistic view of the present boom in American industry

THE ABOVE DISCUSSION has dealt entirely with textiles. Now going to the broader arena—American business in general—we had the privilege two weeks ago of listening to one of the great thinkers of this country, and of the world. It was an off-the-record talk, so we can't quote him. But our readers may take our word for it that his opinion is worth the most careful attention and then some.

He considered our present boom under two heads: (1) possibilities of sales to nations at war; (2) possibilities of domestic absorption of our current production.

On the first point, he estimates that, instead of selling $2,000,000,000 worth a year abroad, as we did during the last war, we can sell at a maximum $700,000,000 a year during the present war. The first factor in this estimate is the cold hard realization that England and France will buy what they can from nations where they can get credit, rather than from the United States where they must pay cash. In other words, they will buy from us only those things they can't get elsewhere. Airplanes are the outstanding example—and a generous part of the $700,000,000 estimate is in this category.

On other products which figured so prominently in our sales during the last war, he points out the following facts: (1) England and France, together, then had a producing capacity of 85,000 automobiles a year. They now have an annual capacity of 850,000 cars a year, which would seem to hold out very restricted possibilities for our motor exports. (2) In 1914 this country was the main source of copper and other metals. That is not true today. (3) The allies can get all the meat they want from the Argentine. A similar situation holds in other foodstuffs. (4) England and France depended on Chilean nitrate, shipped here and further fabricated here, in the last war. They have no such dependence today. . . . Other factors were cited but this is enough to explode the belief that war in Europe necessarily means great demand for all direct or indirect war materials from this country. Wall Street might take note.

On the second point, that of domestic consumption, he asserts that a great deal of our production is going into inventories. He merely referred to our present steel output—and asked if any of his hearers really believed a large part of that was going into actual consumption.

HERE IS THE IMPORTANT POINT: This world leader is convinced we will have a recession in 1940. At the moment, he does not believe it will be as precipitous as that of 1937, but he could give no assurance on that point.

We can add only this word: We have been warning against unsound sales and production policies in textiles ever since the boomlet started. Sales policies *have* been conservative; but production policies have tended toward over-optimism. We recommend a careful consideration of the above opinion. We, personally, have been in touch with this particular man for 19 years; we know he speaks as a profound student of world and national trends. Now is the time to guard against the next depression. Two or three months from now may be too late.

Two Ways to Profit by the Boom

Keep production schedules and sales commitments in check, urges Murchison

THE WAY IN WHICH the current boom in textiles can be nursed along and made to last as a source of profit to textile mills is a simple one, according to the advice given by Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, at the annual meeting of that organization Oct. 25. Just two things were prescribed: 1. Keep production within the limits of normal operating schedules. 2. Avoid making excessively long-time contracts.

Fortunately, his was not a voice crying alone in the wilderness. The day prior to his annual meeting, he had presided at a coordination conference of the heads of related textile associations and had found a unanimous recognition of the need for these two policies of "prosperity control." Consequently he was able to speak for the industry as a whole.

However there was a serious limiting factor. Despite the recognition of this need; there was also recognition of the inability of industry, under present legal restrictions, to take concerted steps toward restraining unsound production policies such as extension of the third-shift. Consequently, one of the objectives of the coming year is to be the modification of those laws which today prevent industrial self-government.

In discussing these problems, Dr. Murchison said:

"At meetings and in conferences with many mill executives during the past few weeks, I have discovered that there is already present a prevailing sentiment in support of the following policies:

"First, that production be held within the limits of normal operating schedules. It has been conclusively demonstrated over and over again that under this limitation the industry as a whole has adequate capacity to supply all potential needs. Any considerable divergence from normal operations, which for most mills are 80 hours per week, will in a comparatively short time check the momentum of prosperity and definitely destroy any hope for better conditions in the cotton industry for many years to come.

"The proposal, therefore, to stay within established schedules no longer demands support of brotherly love or intangible devotion to the industry. It demands support, because it is sound, business judgment.

"A second constructive viewpoint, which has already met with wide favor and wide application, is to avoid the making of excessively long-time contracts, particularly those of the blanket variety. Sentiment strongly favors a time limitation of three months with the possible exception of those contracts which are fully specified and involve no uncertainties as to character of goods or times of shipment.

"This is based partly on the assumption that buyers can meet their legitimate requirements through 90-day contracts. Certainly as regards staple goods the placing of blanket contracts for longer periods is usually motivated by the expectation of price increases and therefore is speculative in character. Speculative buying is just as great an enemy of the industry as is overproduction. When depression is at its lowest the amount of time involved between the making of a contract and its fulfillment is at the shortest. When prices begin to mount and business becomes more active, the average time period embraced in the contracts becomes longer. When prices reach their peak and activity is at the maximum, the time period embraced in the contracts is at its longest.

"To enlarge the volume of financial commitments merely by lengthening the period of anticipation until it reaches into a future which is unknown is a purely artificial enlargement and that portion which exceeds visible needs consists only of risk taking. Although presumably the risk is taken by the buyer, in actual practice it also devolves upon the seller. The contracts made in December, 1936, and in January, 1937, which were of the four to six months variety, and in some instances even longer, were to a large extent still awaiting specifications in the last quarter of 1937 and perhaps even in 1938. In many cases the mills would have been better off if the contracts had never been made. . . . .

"This industry, as is no doubt the case with many others, feels keenly the need for modifications of administrative constructions of the anti-trust laws, or of the laws themselves. Ours is a highly competitive industry, has no interest in monopoly; it has no desire to fix prices or for price control in any form, either by the Government or by the industry. But the public interest, as well as the interest of management and labor, demands that the industry be permitted to engage in concerted efforts to minimize harmful practices which employers and employees, the public and the Government itself, recognize as unsound. Until this can be done the road to stability will be long and painful and perhaps never reach its objective. We shall seek with all our power legislative revisions which give the industry half a chance to cope with its fundamental problems. It is nothing more than an appeal for intelligence and decency in the regulation of competitive enterprise."

AFTER STARTLING HIS HEARERS with the assertion that he felt that the consensus among experts in Washington is that it is an even toss as to which side is going to win this war, Arthur D. Whiteside, president of Dun & Bradstreet, then proceeded to consider industry's fundamental problems, "war or no war."

The Government can't go on to draw taxes from unprofitable industries, he said. Something will be worked out shortly, he believes, to effect cooperation between industry and Government. This "something" should be broad enough to permit complete flexibility.

"If you've ever taken yourselves seriously, you should do so now in an attempt to find out what you can do to make a profit under existing legislation," he advised the members of the institute. "On the other hand, you don't want legislation to fix prices or strict allocation of production. You can't get that, unless you want to go under government control.

"This is one crisis where you'll either get your answer yourselves, or you won't persist as free economic units.

"Take my word for it; the only way you can be successful in this business

is to show the enlightened way to individual enterprises. Shame or browbeat the man who won't play the game. That isn't collective threats; it's the only way you can continue to have a free economy."

As is always true when Mr. Whiteside addresses a textile audience, his sincerity, clarity of vision, and constructive thinking made a most profound impression. His talk was worth ten of the average convention addresses.

Paul Hollister, executive vice-president of R. H. Macy & Co., New York, brought the retail viewpoint to the institute's afternoon session. He stressed the "average consumer" who now consumes 26 lb of cotton a year, or 1.4 oz daily. For a 10% increase in business next year this "average consumer" need only consume 14/100 oz more daily. And Mr. Hollister dramatized his points by throwing 1.4 oz of cotton on the floor and later adding 14/100 oz to it. He alleged that it was even simpler than these gestures to effect the 10% gain in business next year.

"What the average consumer does with cotton," he went on, "whether he consumes more or less, is wholly up to those who have the major self-interest in the production and distribution of cotton. One thing I believe: that he will not be induced to consume more cotton just because it is patriotic—or because cotton is the major cash crop of the South and therefore a major factor in the purchasing power for northern or western goods. He will not care very much whether he is helping labor or capital, technology or home industry.

"He cares very much indeed, however, whether he has a pair of pajamas, clean underwear, a towel, a tie, a suit, a shirt, a hat and a handkerchief. He cares very much whether he has a shade at the window, curtains, chair coverings, rugs; he definitely does not like to sleep on a bed without sheets.

"He was *made* to care. Time was when he didn't care especially whether there was a bedspread on the bed or not, but today he feels a little uneasy without one, because somebody indicated that a bed was better with a bedspread to keep the blankets clean and to look more like the pictures in the magazines. His real need for cotton, beyond the barest requirements of coverage and body comfort, is wholly and entirely at the dictation of the cotton industry. That's us. Our only avenue to whatever increases we may wish to attain for our own self interest depends on the sympathy of our analysis of what *his* self-interest may be—and then on our application of our individual specialties to that self-interest."

Photo by Daily News Record

The three principals at Cotton-Textile Institute's opening session—(left to right) A. D. Whiteside, president Dun & Bradstreet; Goldthwaite H. Dorr, chairman of the Board of C.T.I.; Claudius T. Murchison, president, C.T.I.

EXPORT PROBLEMS were clarified by Frank H. Hillery, president of the Textile Export Association. He pointed out that the bulk of the flood of foreign orders for textiles, which deluged the market following the outbreak of war, came from those countries which heretofore have been using American goods in quantity, namely Philippines, Cuba, Colombia, Venezuela and Central America; and that these orders were largely for regular classes of goods. He said there was comparatively little business in classes of goods not previously bought from the United States and comparatively little business from the larger South American countries.

Mr. Hillery stressed that because of import or exchange restrictions and special tariffs today, more than ever before, foreign trading is a specialized business and should be attempted only through trained organizations.

"There is reason to believe," he concluded, "that with the continuance of war conditions we may increase our export volume to the 1929 maximum of 564,000,000 sq.yds., which would mean a gain of 250,000,000 sq.yds. over last year's figure of 319,00,000. Such an increase would naturally improve the whole cotton goods situation. In order, however, to sell more to certain foreign markets, we may find it necessary to buy more of their products, thereby covering one means of furnishing exchange."

At the luncheon, M. D. C. Crawford, research editor of the *Daily News Record*, spoke on the forthcoming motion picture of the cotton industry which he believes will be a high public-relations achievement. "One wrong law will cost more than this picture," he stressed. The first reel, soon to be ready, will include the expression of cotton in the highest artistic achievement of the human race and emphasize the antiquity of the industry's heritage.

Milo H. Perkins, president of the Federal Surplus Commodity Corp. spoke off the record on the Government's plans and efforts to promote greater cotton consumption.

THE FOLLOWING were elected directors of the Institute for three years: W. D. Anderson, W. N. Banks, Arthur B. Barnes, S. Marshall Beattie, Charles F. Broughton, H. A. Burow, Donald Comer, B. F. Hagood, Gordon Harrower, C. E. Hatch, W. H. Hightower, Luther H. Hodges, Robert P. Hooper, Weston Howland, C. E. Hutchison, L. L. Jones, P. L. Lamb, J. A. Miller, W. S. Montgomery, A. G. Myers, J. T. Phillips, L. D. Pitts, T. Scott Roberts, Charles A. Sweet, F. C. Williams. The following were elected for a two-year period: E. N. Brower, J. Harold Lineberger.

At the meeting of the board, the following were elected to the executive committee: Robert Amory, Howard Baetjer, Fuller E. Callaway, Jr., James A. Chapman, Jr., Herman Cone, G. H. Milliken.

The board of directors also elected the following officers for the ensuing year: Goldthwaite H. Dorr, chairman of the board; Claudius T. Murchison, president; Charles F. Broughton, vice-president; K. P. Lewis, vice-president; Paul B. Halstead, secretary-treasurer.

Courtesy of "The Christian Science Monitor"

Ye Old Circus Troupe—left to right: Warren E. Emley, National Bureau of Standards, member of Textile Foundation Advisory Committee for Scientific Research; George W. Taylor, Research Department, Wharton School of Finance & Commerce, member of Textile Industry Committee Wage-Hour Administration; Stanley B. Hunt, Textile Economics Bureau, member Economic Research Committee of U. S. Institute for Textile Research; Hiram S. Davis, Research Department, Wharton School of Finance & Commerce; Franklin W. Hobbs, chairman, Textile Foundation; Frederick M. Feiker, Secretary, American Engineering Council

NACM Fails to Stump the Experts

Textile Foundation troupe knows all the answers—War also discussed at Boston

IT MAY BE time to stump the experts, but Boston isn't the place. The Textile Foundation's group of authorities which appeared at the annual convention of the National Association of Cotton Manufacturers in Boston Oct. 18 apparently had the members scared, because only one man—the intrepid Sam Lamport—dared to ask a question. During the rest of the time, the experts tried to stump each other. This attempt also failed—but, since there were evidences of collusion, that didn't count.

Other features of the convention included a symposium on the war and its effect on the cotton industry; the sensational surprise re-election of Russell T. Fisher as president; and the passage of a group of resolutions by a very close vote—as narrow as 1 to 0 in one case.

The discussion among the Foundation experts was innocently titled on the program "Domestic Conditions in the Cotton Industry," but actually it was a presentation of the several facets of research as sponsored by the Foundation. Apparently the disguise was based on the belief that practical manufacturers would shy at the term research. The ruse worked, because after the meeting many of these hard-headed business men were lyrical in their praise of the Foundation's program and what it means to the future of the industry.

The main fields being explored, as explained by Franklin W. Hobbs, chairman of the Foundation, who opened the discussion and then modestly withdrew, are: (1) scientific research; (2) economic research; (3) textile education.

The discussion was carried on entirely informally—the troupe being seated around the conference table and the questions being bandied about apparently extemporaneously but, as previously hinted, actually with a certain amount of malice aforethought.

The first one—referring to scientific research—was caught by Dr. Warren E. Emley of the National Bureau of Standards, and member of the Textile Foundation Advisory Committee for Scientific Research. Dr. Emley went outside the textile industry, and gave a thrilling summary of the effect of research upon steel but emphasized the need for continued research in any field by pointing out that while the steel industry was expanding its markets and increasing its prices new competition was arising—such as aluminum for example. Coming back to textiles, he stated that the products today, compared with those of 30 or 40 years ago, show marked progress. The Textile Foundation, he stated, has brought a new idea in the last few years by substituting an organized approach in research for individual approach; in other words it has concentrated a number of different kinds of brains on each problem. He spoke of the Foundation's fellowships at the Bureau of Standards, where 15 men are on the Foundation's payroll, and of the research it supports at Yale, M. I. T., and North Carolina State. The main job, he emphasized, is to find men for these research jobs.

This last remark was really a neat way of passing the ball to Dr. Frederick M. Feiker, executive secretary of the American Engineering Council, who was requested by Dr. Emley to tell what had been done in the direction of training men. Dr. Feiker reviewed the job he had undertaken under the auspices of the Textile Foundation: the survey, results of which were published under the title "Training of Men for the Textile Industry"; the periodic conferences of deans of the textile schools which have meant much to the development of a national approach in this matter; and the production of both technical and economic texts for use in the textile schools.

The third phase of the Foundation's research program—economic research—then came in for attention at the hands of Dr. George W. Taylor, of the Wharton School of Finance and Commerce, and a member of the Textile

Industry Committee, Wage and Hour Administration. Discussing the study of inventory policies now being conducted by Wharton School under the sponsorship of the Foundation, he expressed the belief that there may be rules and regulations in business other than hunches, and the hope that a scientific approach may be developed in the formulation of business policies. The inquiry his group is making into the inventory question has three phases: (1) determining the minimum amount of inventory required to do a given volume of business, and the technique necessary to control this inventory; (2) the expectant sales toward which this minimum inventory is being built, and the guides which can be developed at different points to aid inventory control; (3) the influence, on inventories, of outside factors beyond the control of management.

Another of the economic research studies sponsored by the Foundation—that on vertical integration—was summarized by Hiram S. Davis, also of the Wharton School, who reported on a number of cases in which actual use has been made, by individual manufacturers, of the findings of this study. For example, an old-line silk organization has been using the principles developed, particularly that on tapered capacity, in reorganizing its whole company. A wool spinning company has started to sell novelty yarns on a brand basis, as a result of the study of the report. A cotton manufacturing company has put the requirements of its sales department ahead of that of the production department, also as a result of the investigation.

Finally, as an example of the possibility of correlating scientific research and business research, Stanley B. Hunt, of the Textile Economics Bureau, cited the rayon industry. He also spoke of the way in which lines of demarcation among the different fibers had been done away with. Whereas we formerly had wool weavers, silk weavers, rayon weavers, etc., we now have just weavers.

The one question from the floor, put by Mr. Lamport, was whether in investigating inventory policies, the style problem had been given the prominence it deserves. Dr. Taylor replied in the affirmative and spoke of the many style theories which they are investigating.

After this session, it was rumored that the troupe's next appearance would be in New York which (to New Yorkers at least) is big time, but other engagements prevented.

There were no cowboy songs.

IN OPENING the convention's morning session, Russell T. Fisher, president, said "With the 32½¢ minimum wage going into effect on Oct. 24, the northeastern cotton mills find their average wage per hour per employee about 5¢ above the wage paid by their southern competitors. This is a reduction in the differential from about 8¢ an hour, but it is still a serious handicap."

In his banquet address President Fisher gave a few warning words on the outlook: "I believe there is a serious threat to employment and profits within the industry. Control of fine goods production to reasonable proportions, plus the forced curtailment in the print cloth group this last summer, gave some hope that the industry had learned its lesson. However, no sooner had the spurt in buying occasioned by the European war reduced these stocks materially than the trade papers began to report daily more and more mills stepping up production through the addition of a third shift. Unless some means can be found, when orders are completed, to shut off this third-shift production as rapidly as it was begun, we are headed for over-production, part-time operations and no profit."

The slate offered by the nominations committee was elected as follows: President, Russell T. Fisher; vice-presidents, C. F. Broughton and Ralph C. Perkins; directors, Robert L. Amory, Robert L. Anthony, George V. Meehan, Samuel Powell and W. F. Staples.

C. T. Revere, of the cotton brokerage firm of Laird, Bissell & Meeds, New York, spoke on the influence of the war on raw cotton.

"I regard cotton as less volatile than the other commodities," Mr. Revere went on when considering the price outlook. "Placing domestic consumption at 8,000,000 bales and exports at only 4,000,000, it looks like a tight squeeze with the indicated size of the current crop (11,928,000 bales). If growers extend a holding movement which has already developed in the South, this would further accentuate the potential tightness of the situation. Consequently with May and July contracts selling at or below the mandatory loan level, the risk in purchases, at least from standpoint of market theory, should be substantially minimized. It is difficult to see how a tight spot situation can be avoided next spring."

In his talk on "International Trade in Cotton Textiles," Edward T. Pickard, chief, Textile Division, U. S. Department of Commerce, digressed at the start to disillusion those who hold the belief that war means greatly increased cotton consumption. "On the contrary," he said, "the problem of oversupply would become even more acute," and he instanced shrinkage in world consumption during the 1914–18 war period.

On the export outlook he said, "Opportunities for new and larger markets can be converted into actual orders only by the application of proven business practices. There is no room in our market place for the opportunist and speculator in foreign trade." . . . In view of the difficulties visualized in connection with dollar-exchange, it is not unlikely that the alternative of barter will be broached.

Courtesy of "The Christian Science Monitor"

Left to right—Russell T. Fisher, president, National Association of Cotton Manufacturers; William M. McLaurine, secretary, American Cotton Manufacturers Association; Frank Neild, former president, N.A.C.M.

Major B. J. Finan, Q.M.C. Procurement Planning Officer, spoke off the record on industrial preparedness.

At the banquet Commander A. J. McKee, U. S. Navy, spoke on the "Salvage of the Squalus" and motion pictures were shown by Lieutenant Commander F. A. Tusler.

Words of greeting were received from two of the banquet guests—Dr. C. T. Murchison, president, Cotton-Textile Institute; and William M. McLaurine, secretary of the American Cotton Manufacturers Association.

First Legal Attack on Wage-Hour Law

Stay orders against 32½c granted in South—Wage adjustments are made

From TEXTILE WORLD'S Washington Office

MIDNIGHT OCT. 23 was Wage-Hour New Year, and 690,000 workers cheered as the statutory 5¢ minimum wage increase and the two-hour cut in the work week took effect on all "commerce." Simultaneously operative was the administrative order setting the minimum wage in textiles at 32½¢.

This first legal attack on the wage-raising committee system was filed by Opp (Ala.) Cotton Mills, and a stay order was granted by Judge Rufus E. Foster, of the Fifth Circuit Court of Appeals (Georgia, Florida, Alabama, Mississippi, and Louisiana). Immediately three other Alabama cotton mills intervened and posted $10,000 bond each, under which they will withhold payment to employees of the 2½¢ required by the administrator's order over and above the new statutory 30¢ minimum. Within a few days several more mills had intervened and posted bonds. The $10,000 bond was calculated by the court to guarantee back pay of the 2½¢, about $1 a week, to employees in case the petition is denied. Any and all employers in the Fifth District are eligible to post bond and withhold the amount of the increase. As this went to press it was reported action would be brought in the Eighth District, and probably in others. Legal opinion here is that no decision can be expected until around the first of the year.

Whichever way the case is decided, it probably will go to the Supreme Court. Administration attorneys here feel certain that the high court, as presently constituted, will sustain the Government. It is the wage-order or committee system that is being challenged. Grounds of complaint are unconstitutionality, discrimination, and everything in the deck. In case the wage-order part of the law were thrown out, the statutory section would remain and the 40¢ objective would still be achieved in the stipulated seven-year period.

Added to the court battle over the wage-order is the Washington shakeup in which Lt. Col. Philip Fleming succeeded Elmer Andrews as Administrator. Best information indicates that Secretary Perkins engineered Mr. Andrews' resignation under pressure from organized labor and for personal reasons. Congressional action, necessary to legalize Col. Fleming's appointment, cannot be taken till next year. Meanwhile Secretary Perkins will be in control of the Division, contrary to the law which requires the Administrator to report to Congress. This question of jurisdiction, plus re-introduction of amendments, will cause another wage-hour controversy in the next session.

Glancing at other wage-hour events: The Knitted Outerwear Committee No. 7 voted to recommend a 35¢ minimum wage . . . The Knitted Underwear and Commercial Knitting Industry Committee on Nov. 1 unanimously recommended a 33½c minimum wage. Probably the decision whether to issue the wage-order will fall to the lot of Harold Jacobs, who is expected to serve out the year as acting administrator . . . Textile mills operating under the 32½c minimum may obtain special certificates authorizing employment of learners at the rate of 25c per hour to a limit of 3% of their skilled and semi-skilled workers for a six-weeks period for normal replacements if experienced workers are not available.

. . . And from the Southern Front

From TEXTILE WORLD'S Greenville (S. C.) Office

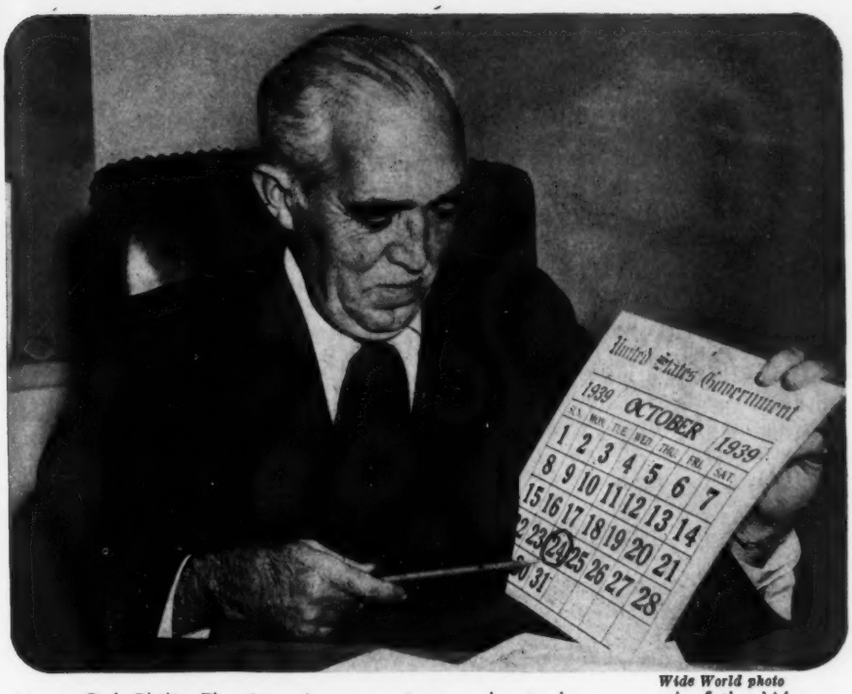
THE GREAT MAJORITY of southern textile mills quietly adjusted wages upward to the 32½¢ minimum and reduced hours last month in accordance with the provisions of the wage-hour law.

Loudest squawks came from small mill owners who lost no time in securing temporary injunctions against enforcement of the law. This injunction, instigated by a committee said to represent 300 small southern mills, was filled with the U. S. Circuit Court of Appeals at New Orleans, La. Hearing is expected to take place early in December. The injunction, immediately attacked by New England manufacturers, was granted on the allegation that the law discriminated against southern mill operators. It also challenged the constitutionality of the law.

The committee arranging the suits, involving mills in several different States, was composed of R. D. Sanders, of Jackson, Miss., president of the Mississippi Association of Textile Manufacturers and head of the J. W. Sanders group of mills; Paul A. Redmond, president of Alabama Mills, Inc., Birmingham, Ala.; and William J. Vereen, vice-president of Moultrie Cotton Mills, Moultrie, Ga. Mills affected included Opp (Ala.) Cotton Mill; Lane Cotton Mills Co., New Orleans, La.; Alabama Mills, Inc., Birmingham, Ala.; Acworth (Ga.) Mills; Micolas Cotton Mill, Opp, Ala.; Laurel (Miss.) Mills; and Berryton Mills, Rome, Ga. Each mill posted $10,000 bond as wage-increase security in event of an adverse ruling. It is understood that the expense of the litigation is being borne by the 300 small mills which have jointly opposed the wage-hour legislation from the beginning.

Primarily because of greatly improved business in recent months, none of the larger mills or groups of mills have outwardly opposed the wage-hour law, although privately most manufacturers bitterly condemn it as being unjust to the South. Only a handful of southern mill executives have publicly stated approval of the law. There is a feeling that some of the larger companies may contest the law sooner or later when bad business again starts pinching the industry.

The main problem facing the mills in connection with the wage-hour law is not so much in meeting the minimum, since most of the larger plants were near that point anyway, but rather in adjusting skilled wages higher than the minimum so as to maintain a proper differential between jobs. A few mills are simply pushing the minimum up to 32½¢ and letting it go at that, but the majority for some weeks have been studying the best ways of handling the problem. Most companies are advancing all classes of wages an average of $1 a week. This generally amounts to about 5% above the former total payroll, but the mills refuse to



Wide World photo

Lieut. Col. Philip Fleming, Army engineer, who took command of the Wage-Hour Administration on the eve of the law's first anniversary

give out percentage increases since there are so many variables involved. If this $1 increase per week is general over the South, it is obvious that quite a lot of additional money will be put into circulation. For example, Callaway Mills and Bibb Mfg. Co. have announced total annual wage increases of over $400,000 each.

In order to retain the present differential between white and negro workers, most southern mills are reducing the hours worked by negroes to a point where the weekly wage in dollars is about the same or slightly more than on the old basis. In some instances, this means that negroes will work only 30 to 35 hours a week. A constructive phase of this is the fact that additional negro help will have to be employed. Of course, an effort will be made to get more work out of the colored help during these shorter hours, but most operators are doubtful that this will amount to much. In some instances, negroes will be replaced with white labor, especially in sweeping and cleaning jobs, but this is not likely to extend into the opening room or to outside jobs which negroes seem better able to handle.

An inevitable outcome of the wage-hour law will be increased job loads and purchase of additional labor-saving machinery. Already, many plants are studying their manufacturing schedules with a view toward greater efficiency of both men and machines. Furthermore, partly due to improved business conditions and partly to the wage-hour law, many mills are either already running a third shift or are contemplating putting one on as soon as labor can be secured. There is a definite shortage of skilled textile labor in most of the important industrial areas of the South at the present time. Fancy weavers, spinners, drawing-in hands and numerous other classes of workers are in great demand, and in some sections are being paid a premium.

Aided by Rayon Stability

Says C. W. Dall, re-elected president of Rayon Weavers at annual meeting

RECOGNITION of the aid given by constructive price and sales policies on the part of rayon yarn producers, toward stabilizing the rayon fabric market in the face of excited demand following the outbreak of war, was made by C. Whitney Dall, president of the National Rayon Weavers Association, in his address at the seventh annual meeting of that body at the Harvard Club, New York, Oct. 25. He sounded a warning that with domestic industrial production outrunning consumption, the situation contains the seeds of its own downfall, which may appear when higher costs are passed on to the consumer.

At the annual election, George M. Wright was elected to succeed Paul Whitin of Paul Whitin Mfg. Co., as chairman of the board; C. Whitney Dall was reelected president; Allan Barrows of Gosnold Mill Corp., was elected first vice-president succeeding Mr. Wright; R. E. Henry of Dunean Mills, was chosen second vice-president succeeding Mr. Barrows.

Others elected to the board to serve for the coming year were: Nathaniel F. Ayer, Cabot Mfg. Co.; Arthur B. Barnes, Ponemah Mills; G. E. Buxton, Androscoggin Mills; J. R. Crawford, Manville Jenkes Corp.; Weston Howland, Warwick Mills; Edwin Lord, Aberfoyle, Inc.; C. E. Neisler, Neisler Mills; J. D. Pell, Angle Silk Mills; Alan B. Sibley, Judson Mills; Seabury Stanton, Hathaway Mfg. Co.; Donald B. Tansill, Pepperell Mfg. Co.; Melville Weston, Newmarket Mfg. Co.; J. T. Wardlaw, Drayton Mills; J. Linzee Weld, Suncook Mills; Paul Whitin, Paul Whitin Mfg. Co.

In his address, Mr. Dall outlined briefly the growth of rayon in the difficult decade since the financial crash of October, 1929. He traced the development of particular yarns and cloths and the gradual supplanting of woven silks by rayons. Then he analyzed the impact of the war declaration upon the industry and the great textile buying movement apparently based on expectation of larger foreign and domestic business.

"It is natural to expect a substantial demand from countries whose sources of supply are now closed. Already, export sales through established channels have risen, but demand from new markets will be slow to develop, largely owing to the lack of exchange, on the part of Latin America particularly, with which to pay for goods bought.

"With no large foreign orders in prospect, with domestic production outrunning consumption, the situation today contains the seeds of its own downfall, which may appear when higher costs are passed on to the consumer. The outlook is for a somewhat lower level of prices in the first quarter of 1940 unless the rapidly increased inventories are absorbed by a greater demand."

Vinyon Plans Completed

Carbide & Carbon to make the resin; American Viscose to spin the yarn

RUMORS THAT VINYON — the new synthetic fiber developed by Carbide & Carbon Chemicals Corp.— was to be produced commercially by American Viscose Corp. became a reality, on Oct. 31, with the official announcement of an arrangement between the two companies. Production of the yarn in both continuous filament and staple fiber forms, actually started some time ago in the Meadville, Pa., plant of American Viscose; Vinylite, the synthetic resin from which Vinyon is produced, is made by Carbide & Carbon Chemicals Corp. in its South Charleston, W. Va., plant.

Several types of fabrics—chiefly filter cloths—woven from continuous filament Vinyon are now being sold by Wellington Sears Co.; and American Felt Co. is preparing to market a pressed felt containing Vinyon staple fiber. Considerable experimental work has been carried out in the development of other types of fabrics. The continuous-filament yarn is to be made available in practically all standard deniers and, ordinarily, in filaments finer than those of real silk. Prices are expected to be about $1.90 per lb. for 120-denier Vinyon, and $1.50 for 150-denier and coarser.

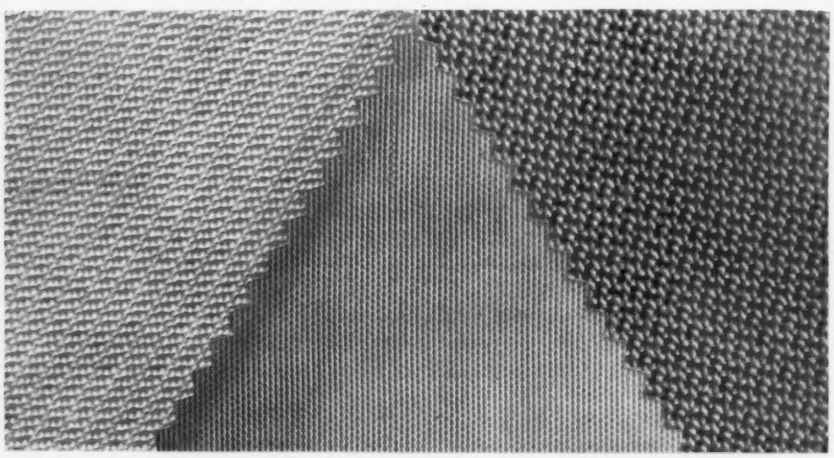
High elasticity and elongation at break; high tensile strength, both wet and dry; and resistance to water, acids, alkalis, and mildew are among the properties of Vinyon of particular interest to textile men. Tensile strength and elongation of Vinyon compared with silk, viscose rayon, and acetate rayon as given by Carbide & Carbon Chemicals Corp. are shown in the accompanying table. Important potential uses for the continuous-filament yarn suggested by these properties include clothing for chemical workers, raincoats, umbrella fabrics, shower curtains, tent and awning materials, tarpaulins, sail fabrics, fish nets, bathing suits, full-fashioned hosiery, sewing thread, chemical-resistant hose, twine, and cords. Vinyon is non-conducting to electrical charges, indicating its use in braids and tapes for electrical insulating purposes. Use of Vinyon staple fiber in admixture with natural fibers, such as cotton or wool, is said to make possible the production of fabrics which will maintain a pressed crease or fold.

ONE CHARACTERISTIC of Vinyon is that it is thermoplastic. Exposure to temperatures up to 150° F. does not cause shrinkage or contraction of the fiber. Above that temperature, however, the thermoplastic properties become apparent, and shrinkage or contraction begins. At still higher temperatures the effect is even more pronounced. Vinyon does not support combustion and is unaffected by alcohols, gasoline, and most other types of solvents. It can be dissolved by a few solvents, and tends to swell when in contact with certain others.

The methods employed in the manufacture of Vinylite and Vinyon were outlined in the October, 1938, and July and September, 1939 issues of TEXTILE WORLD. Briefly, Vinylite is made by the co-polymerization of vinyl chloride and vinyl acetate. The resultant synthetic resin—in the form of a white, fluffy powder—is dispersed in acetone and extruded into filaments by a dry-spinning process similar to that employed for spinning acetate rayon. After ageing, the filaments are wet twisted. If high tensile strength and true elasticity are desired, the yarn is stretched and then set by immersion in water at about 150° F. For certain purposes, the unstretched yarn is preferred. In the table Vinyon No. 1 is a highly stretched yarn; No. 2, a less highly stretched form; and No. 4, a yarn which has been stretched little if any.

If the yarn after being stretched is not subjected to the setting treatment, it has a tendency to shrink considerably when exposed to elevated temperatures. This shrinkage can be utilized to tighten the stitch in knitted or woven fabrics and thereby lessen the danger of laddering or thread slippage.

In weaving Vinyon, high relative humidities are desirable in order to reduce the development of static electricity. Prior to weaving, the yarn should be sized with a hygroscopic sizing agent. It has proved possible to dye Vinyon by any one of several methods, and it is understood that one of the large dye manufacturers will soon announce an improved procedure which will facilitate production of a wide range of shades.



Group of Vinyon filter fabrics sold by Wellington Sears Co.

Tensile Strength and Elongation of Vinyon, Silk, Viscose Rayon, and Acetate Rayon

	Dry, 65% r.h.		Wet, complete immersion	
	Tenacity grams per den.	*Elongation per cent*	*Tenacity grams per den.*	*Elongation per cent*
Degummed silk	4.22	16	3.40	26
Viscose	2.00	18	1.00	28
Acetate	1.40	27	0.85	36
Vinyon No. 1	4.00	18	4.00	18
Vinyon No. 2	2.30	25	2.30	25
Vinyon No. 3	1.00	120+	1.00	120+

Greenville Gives Another Party

This time it is a cotton festival designed to show what cotton means to South

AILING KING COTTON received another shot in the arm last month when Greenville, S. C.—"The Textile Center of the South"—inaugurated its first annual National Cotton Festival. Different from the hilarious street-dancing parties which usually characterize festivals of this sort, Greenville hopes to make this annual occasion assume the serious significance for the layman that its biennial Southern Textile Exposition has for textile and machinery manufacturers.

The festival opened Wednesday evening, Oct. 11, with "the world's largest prayer meeting" featuring a thousand-voice chorus of school children from the Parker District. A lengthy parade, including a number of large floats designed to show the importance of cotton to the South, took place Thursday afternoon. This was followed by coronation of the king and queen at an elaborate ceremony in Textile Hall. A coronation ball, in honor of the Court and visiting "princesses" from neighboring cotton States, was held later that evening. More than 200 pieces of fine cottons affording a preview of 1940 fashions were displayed in Textile Hall under the direction of Charles K. Everett, of the Cotton-Textile Institute. The Institute was also active in putting on a style show with the assistance of Greenville girls who acted as models. A pageant was given Friday and Saturday nights at Sirrine Stadium depicting the history of cotton.

Keynote of Greenville's National Cotton Festival was struck by Oscar Johnston, president of the National Cotton Council, speaking over NBC's National Farm and Home Hour Broadcast, and later directly before 500 farmers at Textile Hall. He urged all branches of the cotton industry to work together in an effort to restore cotton "not as king again, but as a safe money crop from which southern farmers may derive a decent cash profit to add to their income from other diversified crops." Mr. Johnston also called upon the leaders of the textile industry to develop a sound relationship in trading with Latin American countries "which offer a marvelous opportunity for expanding American markets."

L. P. Hollis, superintendent of the Parker School District, who is president of the National Cotton Festival, Inc., the organization behind the Greenville carnival.

Arthur Cottingham, Jr., of Victor-Monaghan Co., and Miss Harriett Cleveland, are crowned king and queen of the festival. The attendant at the right is Carter Henry, of Dunean Mills.

Three of the many comely Greenville girls who helped Charles K. Everett, of the Cotton Textile Institute, put on a preview of 1940 fashions. They are, left to right, Misses Kay Robinson, Frances Gallivan and Virginia Beacham, all members of families directly or indirectly interested in cotton and textiles of the South.

Greenville citizens from all walks of life took active part in the celebration. King Cotton's court was studded with textile names widely known in the industry. Hundreds of textile operatives or their children took part in the parade, pageant and prayer meeting.

Arthur H. Cottingham, Jr., affiliated with Victor-Monaghan Co., was crowned king of the festival, with Miss Harriett Cleveland as his queen. Genial Thomas M. Marchant, president of Victor-Monaghan Co., was impressive in his red robes as cardinal of the court. Attendants included Carter Henry, of Dunean Mills, son of R. E. Henry, president.

L. P. Hollis, superintendent of Parker School District, was president of the National Cotton Festival, Inc. Vice-presidents included James T. Greene, manager of George H. McFadden & Bros., Charles H. Lawton, president of Greenville Textile Club, G. Heyward Mahon, Jr., president of Greenville Chamber of Commerce, T. M. Marchant, John I. Smith, manager of Renfrew Bleachery. Brown Mahon, assistant general manager of Dunean Mills, acted as treasurer.

Spreading Knitted Fabrics

Useful tables aid in obtaining correct cloth width for minimum shrinkage

By F. J. QUILLITZSCH

9 CUT

Yarn Numbers

Machine diameter	8	10	12	14	16	18	20
7″	7	6½	6	5½	5	5	4½
8″	8	7½	7	6	6	5½	5
9″	9½	8½	7½	7	6½	6	6
10″	10½	9½	8½	8	7½	7	6½
11″	11½	10½	9½	8½	8	7½	7
12″	12½	11	10	9½	9	8½	8
13″	13½	12	11	10	9½	9	8½
14″	14½	13	12	11	10	9½	9
15″	15½	14	12½	12	11	10½	9½
16″	17	15	14	13	12	11	10½
17″	18	16	14½	13½	12½	12	11
18″	19	17	15½	14½	13½	12½	12
19″	20	18	16½	15	14	13½	12½
20″	21	18½	17	16	15	14	13
21″	22	20	18	17	15½	15	14
22″	23	20½	19	17½	16½	15½	14½
23″	24	21½	19½	18	17	16	15
24″	25	22½	20½	19	17½	16½	15½
26″	27	24	22	20½	19	18	17
28″	29½	26	24	22	20½	19½	18

10 Cut

Yarn Nos.

Machine diameter	10	12	14	16	18	20	22
7″	7	6½	6	5½	5½	5	5
8″	8½	7½	7	6½	6	6	5½
9″	9½	8½	8	7½	7	6½	6½
10″	10½	9½	9	8	7½	7	7
11″	11½	10½	10	9	8½	8	8
12″	12½	11	10½	9½	9	8½	8½
13″	13½	12½	11½	10½	10	9½	9
14″	14½	13	12	11½	10½	10	9½
15″	15½	14	13	12½	11½	11	10½
16″	16½	15	14	13	12½	11½	11
17″	17½	16	15	14	13	12	12
18″	18½	17	16	15	14	13	12½
19″	20	18	17	15½	15	14	13½
20″	20½	19	17½	16½	15½	14½	14
21″	22	20	18½	17	16½	15	14½
22″	23	21	19½	18	17	16	15½
23″	24	22	20	19	18	16½	16
24″	25	23	21	20	18½	17½	17
26″	27	24½	23	21½	20	19	18
28″	29	26½	24½	23	21½	20	19½

13 Cut

Yarn Nos.

Machine diameter	22	24	26	28	30	32	34
7″	7	6½	6½	6	6	6	5
8″	8	7½	7	7	6½	6½	6
9″	9	8½	8	8	7½	7½	6½
10″	10	9½	9	9	8½	8	7½
11″	11	10	10	9½	9	9	8
12″	12	11	11	10½	10	10	9
13″	13	12	12	11½	11	10½	9½
14″	13½	13	12½	12	11½	11	10½
15″	14½	14	13½	13	12½	12	11
16″	16	15	14½	13½	13½	13	11½
17″	16½	16	15	14½	14	14	12½
18″	17½	17	16	15½	15	15	13
19″	19	18	17	16½	16	15½	14
20″	19½	19	18	17½	17	16	14½
21″	20½	20	19	18½	17½	17	15½
22″	21½	21	20	19	18½	18	16
23″	22½	21½	20½	20	19½	18½	17
24″	23½	22½	21½	21	20	19½	17½
26″	25½	24½	23½	22½	22	21	19
28″	27½	26½	25½	24½	23½	23	20½

14 Cut

Yarn Nos.

Machine diameter	26	28	30	32	34	36	38
7″	6½	6	6	6	5½	5½	5½
8″	7	7	6½	6½	6	6	6
9″	8	8	7½	7½	7	7	6½
10″	9	9	8½	8	8	7½	7½
11″	10	9½	9	9	8½	8½	8
12″	11	10½	10	10	9½	9	9
13″	12	11½	11	10½	10½	10	10
14″	12½	12	11½	11½	11	10½	10½
15″	13½	13	12½	12	12	11½	11
16″	14½	14	13½	13	12½	12½	12
17″	15	14½	14	14	13½	13	12½
18″	16	15½	15	14½	14	14	13½
19″	17	16½	16	15½	15	14½	14½
20″	18	17½	17	16	15½	15½	15
21″	19	18½	17½	17	16½	16	15½
22″	20	19	18½	18	17½	17	16½
23″	20½	20	19½	18½	18	17½	17
24″	21½	21	20	19½	19	18½	18
26″	23½	22½	22	21	20½	20	19½
28″	25½	24½	23½	22½	22	21½	21

A GOOD DEAL of the shrinkage in knit underwear may be traced back to improper spreading. If fabric is spread the wrong width, the stitches will be distorted. When a garment made from such a fabric is washed, the stitches will go back to their normal position and thus cause the garment to shrink in either length or width. Therefore, the fabric should be knit on machines which produce a width as near as possible to the pattern width. This will help not only to eliminate shrinkage caused by stitch distortion, but will make a more uniform fabric in both appearance and feel.

When spreading ribbed underwear fabric, the size of the yarn and cut and diameter of the machine should be considered. The width of the fabric is equal to four times the diameter of the yarn multiplied by half of the needles.

The accompanying tables make it easy to determine the width to spread different fabrics. Suppose it is desired to determine what size to spread fabric knit on a 16-in., 12-cut machine, with 20/1 yarn. First, look down the column headed machine diameter, on the 12-cut table, to the 16-in. diameter; then look horizontally across to the column headed 20. This will give the size to spread the fabric; in this case, 14 in.

11 Cut

Yarn Nos.

Machine diameter	14	16	18	20	22	24	26
7″	6½	6½	6	5½	5½	5	5
8″	7½	7	6½	6	6	5½	5½
9″	8½	8	7½	7	6½	6½	6
10″	9½	9	8½	8	7½	7	7
11″	10½	10	9	8½	8½	8	7½
12″	11½	10½	10	9½	9	8½	8½
13″	12½	11½	11	10	10	9½	9
14″	13½	12½	12	11	10½	10	10
15″	14½	13½	13	12	11½	11	10½
16″	15½	14½	13½	12½	12½	12	11½
17″	16½	15½	14½	13½	13	12½	12
18″	17½	16½	15½	14½	14	13½	13
19″	18½	17½	16½	15	14½	14	13½
20″	19½	18	17	16	15½	15	14½
21″	20½	19	18	17	16½	15½	15
22″	21½	20	19	17½	17	16½	16
23″	22½	21	20	18½	18	17	16½
24″	23½	22	21	19½	19	18	17
26″	25	23½	22½	20½	20	19	18½
28″	27	25½	25	22½	21½	21	20

12 Cut

Yarn Nos.

Machine diameter	18	20	22	24	26	28	30
7″	6½	6	6	5½	5½	5	5
8″	7½	7	6½	6½	6	6	5½
9″	8½	8	7½	7	7	6½	6½
10″	9½	9	8½	8	8	7½	7½
11″	10½	9½	9½	9	8½	8½	8
12″	11½	10½	10	9½	9½	9	8½
13″	12	11½	11	10½	10	9½	9½
14″	13	12	12	11½	11	10½	10
15″	14	13	12½	12	11½	11	11
16″	15	14	13½	13	12½	12	11½
17″	16	15	14½	14	13½	13	12½
18″	17	15½	15½	14½	14	13½	13
19″	18	16½	16	15½	15	14½	14
20″	19	17½	16½	16	15½	15	14½
21″	19½	18	17½	17	16½	15½	15
22″	20½	19	18½	17½	17	16½	16
23″	21½	20	19½	18½	18	17	16½
24″	22½	21	20	19	18½	18	17
26″	24	22½	21½	21	20	19½	18½
28″	26	24	23½	22½	21½	21	20

15 Cut

Yarn Nos.

Machine diameter	30	32	34	36	38	40	42
7″	6	6	6	5½	5½	5½	5
8″	7	7	6½	6½	6½	6	6
9″	8	8	7½	7½	7	7	7
10″	9	8½	8½	8	8	7½	7½
11″	10	9½	9½	9	9	8½	8½
12″	11	10½	10	10	9½	9½	9
13″	11½	11½	11	10½	10½	10	10
14″	12½	12	12	11½	11	11	10½
15″	13½	13	12½	12½	12	11½	11½
16″	14½	14	13½	13	13	12½	12
17″	15½	15	14½	14	13½	13½	13
18″	16½	16	15½	15	14½	14	14
19″	17	16½	16	15½	15½	15	14½
20″	18	17½	17	16½	16	15½	15½
21″	19	18½	18	17½	17	16½	16
22″	20	19½	19	18	17½	17	17
23″	21	20	19½	19	18½	18	17½
24″	22	21	20½	20	19½	19	18½
26″	23½	22½	22	21½	21	20½	20
28″	25	24½	23½	23	22½	22	21½

16 Cut

Yarn Nos.

Machine diameter	36	38	40	42	44	46	48
7″	6	6	6	5½	5½	5½	5½
8″	7	7	7	6½	6½	6½	6
9″	8	8	7½	7½	7	7	7
10″	9	8½	8½	8	8	8	7½
11″	9½	9½	9	9	8½	8½	8½
12″	10½	10½	10	10	9½	9½	9½
13″	11½	11	11	10½	10½	10	10
14″	12½	12	11½	11½	11	11	10½
15″	13	13	12½	12	12	11½	11½
16″	14	13½	13½	13	12½	12½	12
17″	15	14½	14	14	13½	13	13
18″	15½	15½	15	14½	14	14	13½
19″	16½	16	15½	15½	15	14½	14½
20″	17½	17	16½	16½	16	15½	15
21″	18½	18	17½	17	16½	16½	16
22″	19½	19	18½	18	17½	17	16½
23″	20	19½	19	18½	18	18	17½
24″	21	20½	20	19½	19	18½	18
26″	23	22	21½	21	20½	20	20
28″	24½	24	23	22½	22	21½	21½

Preventing Neps In Woolen Yarns

These defects may result from improper carding or be due to condition of stock

By G. MARSHALL

This is the third in a short series of articles on the subject of faults in woolen carding. The series began in the August issue of TEXTILE WORLD. Previous instalments have discussed defects due to variations in the counts of roving, causes of roving which is below strength, and factors underlying production of twitty roving.

NEPS MAY BE CAUSED by any one of the following conditions or by a combination of a number of them:

(1) Overloading of the machine, either by trying to obtain too great a rate of output or because doffer speeds are too slow.

(2) Inefficient working, which may be due to incorrect settings, lack of point, or roughness of card clothing.

(3) Inefficient clearing of the cylinders by the doffers through incorrect working of cylinders, doffers, or fancies.

(4) Use of card clothing which is not of suitable type for the kind of stock being carded.

In addition to neps which are formed in the machine, there are many stocks which contain neps. These must, if possible, be removed in carding. Fine stocks tend to nep much more readily than coarse ones, and it is in dealing with these that the greatest difficulties are experienced. Noils and various cottons are particularly troublesome in this respect.

Overloading of the machine is a prevalent fault and is frequently caused by too low speeds of the doffers. As has already been stated (September issue, page 72) this is due to the desire to obtain maximum carding power, but the figures already given show that little loss is experienced with considerably higher speeds than are usual. Also, the doffers must be regarded as conveyors, rather than as working rollers. It is their function to clear the cylinders. If they have a large number of clean teeth coming forward to receive the stock from the cylinders, they can take the stock much better than if there are only a few teeth, because these soon become overloaded and in no condition to take more stock.

As the workers are usually driven from the doffers, they too run slowly when the doffers are slow, and a condition of overloading is set up which tends to cause the material to be rolled rather than worked; this is a frequent cause of neps. Doffers should be run at such a speed that the material is carried in a thin film, both on them and on the workers. Particularly is this true in the case of the inside doffers, which are not limited in speed by a following feed or condenser.

TO OBTAIN efficient working of the stock all working rollers should have good points, should be perfectly smooth, and should be set as close as possible. These factors are determined by the mechanical condition of the cards, and the speeds at which the rollers run.

In order that the cylinders may be cleared it is essential—in addition to the points already mentioned about the speed setting, and condition of the doffers—to have efficient fancy action. If this condition is not attained, the cylinder teeth fill with material and so become incapable of combing the stock as it is held by the workers. Neppy slivers are the result.

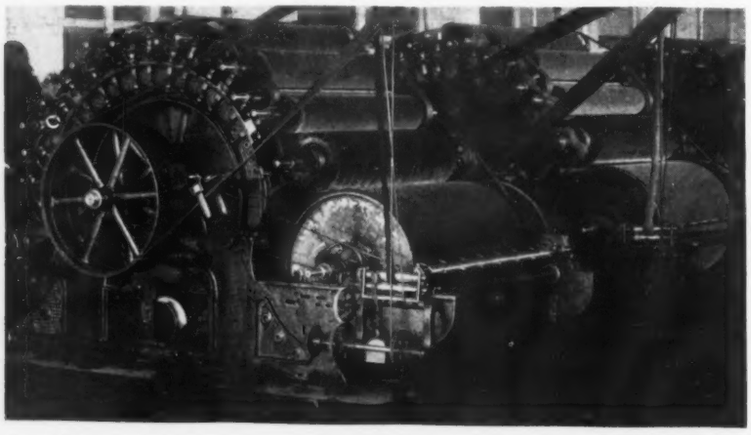
The fancies must be "master" of their respective cylinders; they should be open in counts and crown, strong in the wire, and twill set. If trouble is experienced with fly, adequate fly strippers should be used, so that it is not necessary to reduce the fancies' speed to such an extent that they become ineffective.

After a period of use the wire on the fancies may become ineffective through the strains to which it has been imposed. When this state is reached the wire must be renewed; it is false economy to try to operate with ineffective fancies.

For the fine stocks which are most likely to nep, fine cards are necessary, particularly on the breast. For, if the stock is not adequately controlled on this part of the machine, neps may be formed which are difficult to eradicate afterwards.

(In the next installment of this short series, which will appear in an early issue, the author will take up faults in woolen yarns which are traceable to the spinning process. Subjects which will be discussed in this connection include the questions of yield, rate of output, and spinning faults.—Editor.)

Abstract of a paper delivered before the Dewsbury Textile Society, England.



Overloading of the card may result if workers and doffers are not operated at speeds sufficiently high

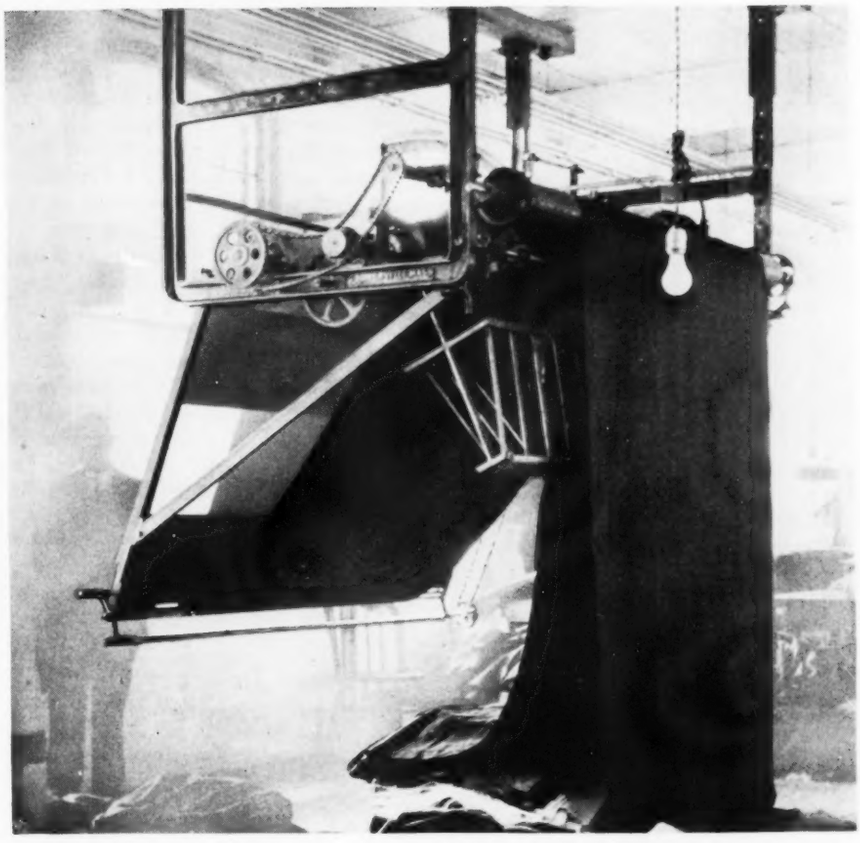
TEXTILE EQUIPMENT NEWS

Knitting Loom

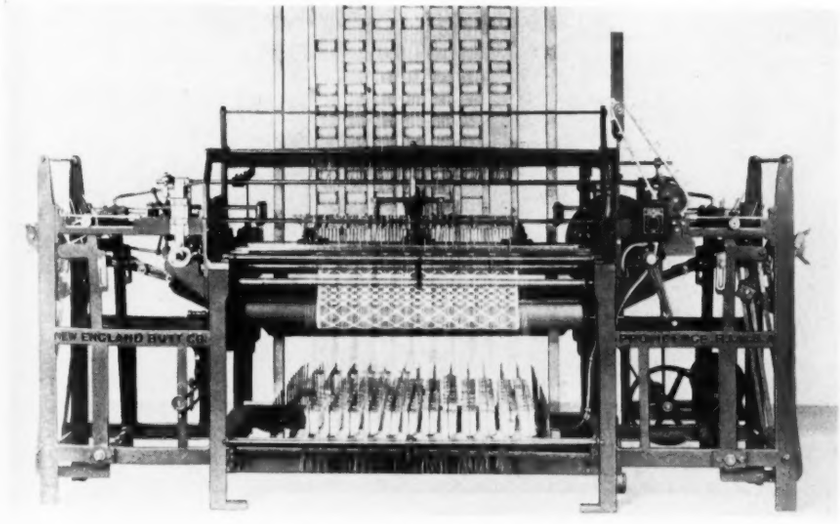
A knitting loom for the manufacture of curtain materials, trimmings, wash cloths, table cloths, and similar materials, has recently been announced by New England Butt Co., Providence, R. I. In this machine the warp, carried on spools beneath the machine, is led to the needles through jacks which rotate about the needles to form loops. The filling is carried to the needles from spools in a creel at the rear of the machine. It is fed, as individual yarns or groups of yarns, to small thread tubes mounted in holders on the pattern bars. These bars, actuated by a dobby chain at each side of the machine, traverse the face of the loom in a predetermined order to lay the filling yarns between the warp wales, thereby forming the pattern.

The new knitting loom is equipped with ten pattern bars, electric stop-motions on both warp and filling yarns, anti-friction bearings on all main rotating and oscillating shafts, and a specially designed slip clutch said to pick up the load gradually, and thereby reduce starting load. Another feature cited is a speed-changing mechanism actuated by a handwheel which gives a 2.75:1 ratio in speed while the machine is operating. This means that the machine may be run at speeds up to 110 picks per minute, without requiring changing of gears. The machine is equipped with an automatic reverse mechanism, said to reduce set-up labor of pattern change and to make possible production of curtains or draperies of panel type without use of long, heavy, dobby chain. It is built in two sizes, for the manufacture of fabrics up to 54 in. and 76 in. in width, respectively.

A heavy cast-iron frame which supports the rocker-arm motion of the dobby-chain assembly is said to hold the dobby chain rigid at all times.



Improved power perch (Birch Bros.)



Knitting loom (New England Butt)

Power-Operated Perch

To make possible careful and thorough inspection of cloth rapidly and with a minimum of effort, Birch Brothers, Inc., Somerville, Mass., has developed a power-operated weave-room perch. The machine is so arranged that cloth passes before the operator at full width and free of wrinkles. As the operator holds the small control switch in his hand, he may stand at sufficient distance from the cloth to see its full width and at the same time be able to start and stop the cloth instantly.

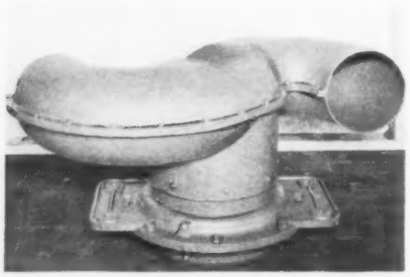
The machine can be operated either forward or reverse, and has a variable-speed attachment. It is fitted with a double yardage counter; both sets of figures may be re-set independently.

The same company has improved its power perch which is used for final inspection in the mending room and for finished inspection before shipping. Special features are: adjustable hang-

ers, forward and reverse drives, speed reducer for varying rate of cloth movement, spiral roll for eliminating wrinkles from cloth to be examined, inspection board equipped with a ground-glass insert for through lighting.

Wool Spreader

A light-weight aluminum spreader, said to prevent separation of wool mixes while they are being blown into



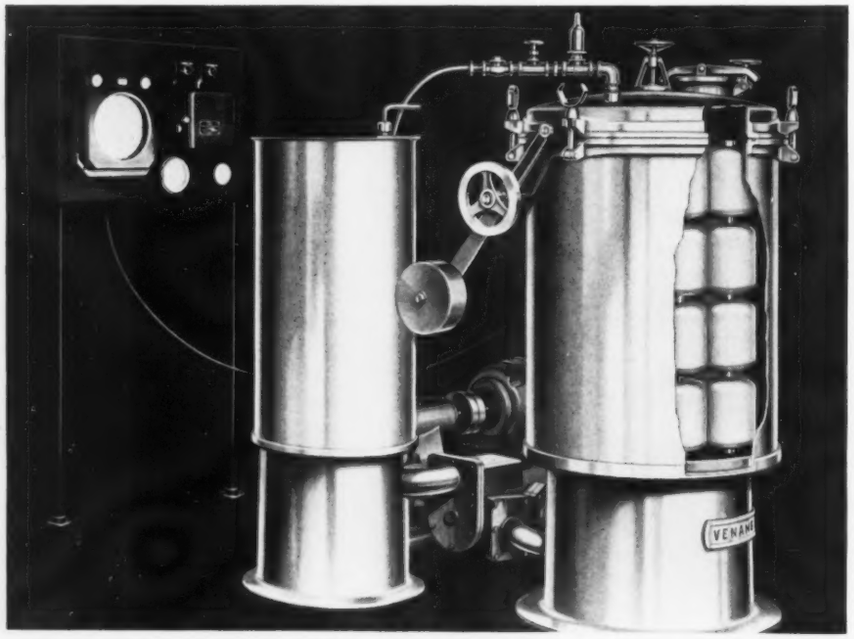
Wool spreader (Whitin)

bins, is being introduced by Whitin Machine Works, Whitinsville, Mass. Baffles are built into the spreader to control air currents, and stock is said to be delivered without change in character. The spreader revolves on double rows of ball bearings. Power required is furnished by exhaust air from the mixing or fearnaught picker to which the spreader is connected by pipe.

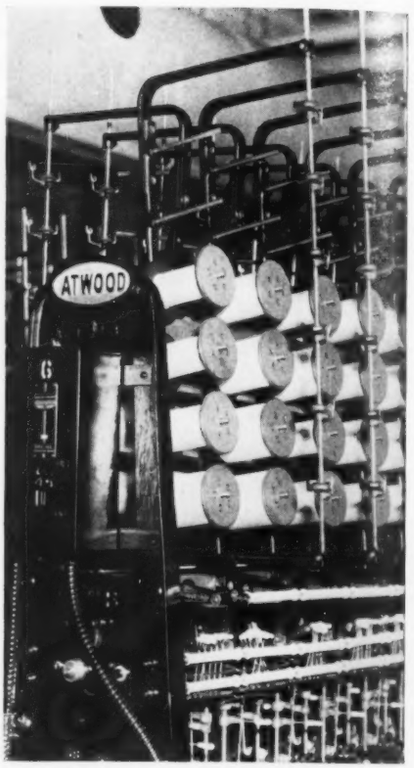
Package-Dyeing Machine

Venango Engineering Co., G and Venango Sts., Philadelphia, has developed a new stainless-steel package-dyeing machine for which important improvements are claimed. Chief of these is the unique method of controlling the reversal of dye-liquor flow. This is done pneumatically, which has permitted simplification of design of the four-way control-transfer valve. Increased efficiency of dye flow through the packages is claimed, because pressure is transferred instantly and maintained without variation in either direction, there being no appreciable lag between changes of flow. Instant flow reversal, accurate timing, and positive control are also cited as features of the new machine.

The design of the dye-tank cover has likewise been changed. In the new equipment it is mounted on a balanced hinge, with a counterweight at the side. As this lid is raised from cover position, it swings outward and downward to a resting position at which a considerable portion of the lid is below the rim of the tank. Thus, the lid requires a minimum of headroom and is kept well out of way when loading and unloading. Raising and lowering of the lid is accomplished simply by turning a handwheel at either side of the tank.



Pneumatic package-dyeing machine (Venango)



Over-end delivery (Atwood)

Over-End Delivery for Doubler-Twisters

The over-end delivery with which Atwood Machine Co., Stonington, Conn. is now equipping its doubler-twisters makes possible delivery of silk or rayon yarns from bobbins or cones which remain stationary. Thus, it is stated, higher yarn speeds can be employed and a balanced feed maintained from each bobbin or cone. With this over-end delivery, which is designed for extreme simplicity and ease of operation, each end of yarn is said to be under small but even tension. The decreased yarn tension is cited as greatly reducing breakage.

According to the manufacturers, threading up is easy, there is nothing to adjust or get out of order, and the position of the take-off permits ready replacement of bobbins. A feature cited is that the over-end delivery is interchangeable with side delivery. If desired, even one bobbin can use side delivery, while the others are operating over-end. Because the bobbins do not revolve, there is, it is said, no wear on bobbin holes.

Oil for Pickers

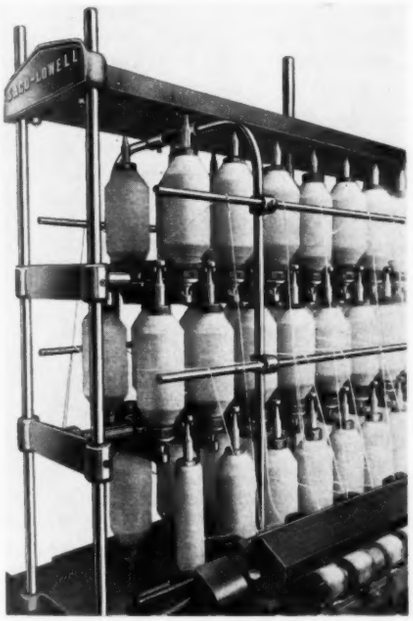
A new use for its oil product, Telura Z-41, has been developed by Standard Oil Co. of New Jersey, 26 Broadway, New York. Loom pickers are soaked in the oil for about 30 days previous to being put in use. After the pickers have been placed in service, the picker spindles themselves are oiled with the same material approximately twice daily.

This treatment is said to reduce friction generated between pickers and picker spindles, and thus to increase considerably the life of pickers. Several southern mills which have experimented

with Telura Z-41 for this purpose are said to have obtained extremely satisfactory results.

Spinning Frame Creel

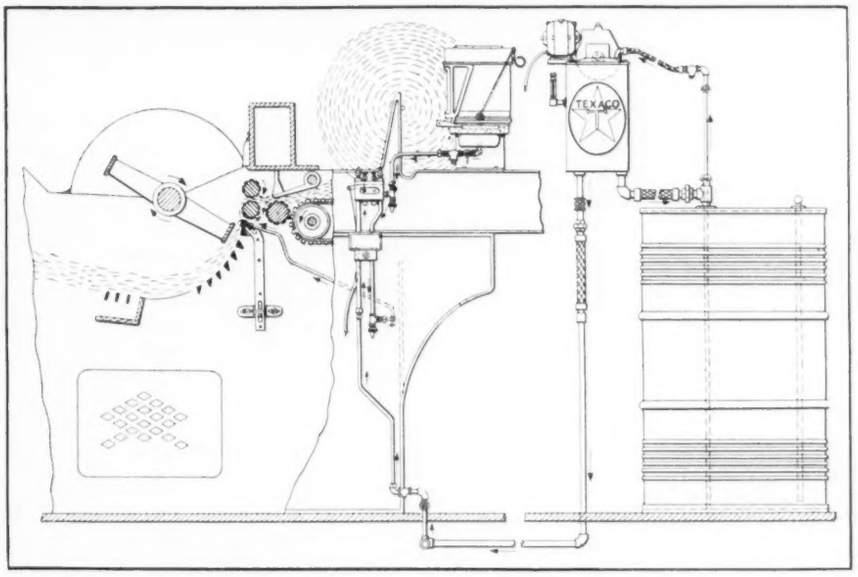
Announced by Saco-Lowell Shops, 60 Batterymarch St., Boston, is a modernized construction of the Birkenhead spinning frame creel. In general, the over-all height is greater than that of the standard creel, and there are no solid middle boards. With the exception of the top and bottom creel boards, the material used is either iron or steel. The bobbin holders are of cast iron, rumbled until smooth, and then finished with a coat of gray baked enamel.



Spinning frame creel (Saco-Lowell)

Supports for the bobbin holders are steel.

The bobbin holders are readily removed when changing from double to single roving, or they can be easily applied when changing from single to double. The creel is made so that it can accommodate all ordinary roving bobbins. To facilitate creeling, the bobbins are arranged so that there are no double rows.



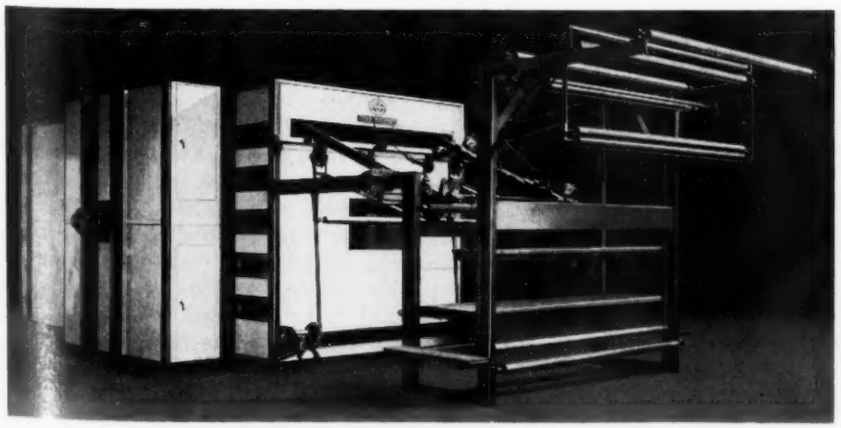
Fiber conditioning and tinting equipment (Texas Co.)

Tenter-Dryer

Drying of 12-oz. woolen fabrics at 40 yd. per min. is said to be possible in the Duplex tenter recently announced by James Hunter Machine Co., North Adams, Mass. Cloth is exposed to the heat and air of the dryer only from 1¼ to 4 min., depending on the weight of the fabric.

This reduction in the time required by former models not only speeds up production, but the fabric is said to have an improved handle and quality. It is also cited that with the new machine there is a considerable saving of floor space, and that it can be operated by one man.

Built into the machine are automatic guides, patented selvage openers, temperature and humidity controls, recording devices and counters, and means of remote-control operation.



Duplex tenter-dryer (James Hunter)

Tinting Equipment

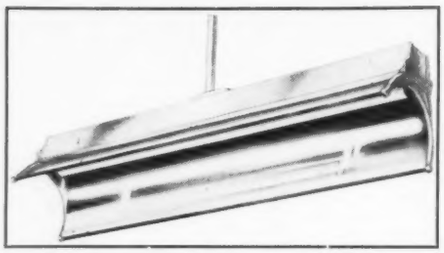
Equipment for applying fugitive tints at the picker to rayon staple fiber blends for batch-identification purposes has been developed by Texas Co., 135 E. 42nd St., New York. The equipment is supplementary to that supplied the same company for fiber lubrication by use of its Texspray compound, and tinting can be accomplished at the same time the lubricating compound is added.

Advantages which the new equipment is said to make possible include assurance of the same shade intensity on each lap and uniform application across the entire lap. It is also stated that the ratio of lubricating compound and tinting solution can be varied at will, change or replenishment of tint can be easily and quickly made, and no laborious cleaning of machine parts is necessary when it is desired to resume running white stock.

Texas Co. points out that it is not undertaking to furnish the tinting materials, this being left to regular sources of such materials. It is supplying the supplementary equipment for applying tints jointly with Texspray compound.

Fluorescent Fixture

A fluorescent lighting unit designed to deliver from 50 to 60 foot-candles of cool, shadowless, daylight illumination on the needle bars of full-fashioned hosiery machines is being marketed by Wheeler Reflector Co., 275 Congress St., Boston. Known as "Knit-Master," the unit incorporates a 30-



Fluorescent fixture for hosiery machine (Wheeler)

watt, 36-in. daylight fluorescent lamp in a reflector specially designed to deliver maximum intensity directly on the needle bars. The complete fixture includes, in addition to the reflector, sockets, auxiliaries, hinged wiring channel, a flange for pipe mounting. Fixtures are wired and left with pigtails for connecting to branch circuits.

Strapping Tool

Stanley Tools, New Britain, Conn., has announced the Ace strapping tool with automatic seal feed. It tightens, feeds its own seals, and cuts the strapping in two easy arm motions. It will hold 100 seals, and can be used for packages on either a shipping bench or a roller conveyor.

Pick Counter

A pick counter in which one case serves for both two- and three-shift operation, and which obviates adding another housing, has recently been introduced by Waltham Watch Co., Waltham, Mass. This counter, known as Model 33A, is smaller than many older models, and is made entirely of stainless steel, brass, and bronze parts. Oilless bushings have been used throughout, and it is said the counters never will require attention for oiling.

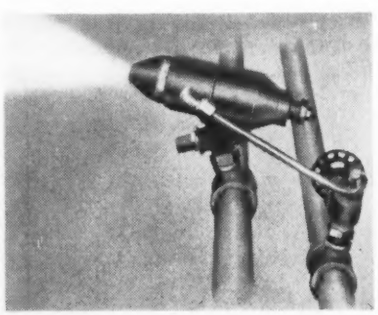
Other features cited include the fact that no key is needed, that operatives need only one hand to reset, and that a shutter completely covers odometers until resetting is completed, thus preventing tampering.

Pick counter (Waltham)

Fulling-Mill Counter

A fulling-mill shrinkage-measuring counter, known as Model 3-D-9-S, has been developed by Durant Mfg. Co., Milwaukee, Wis., to solve the problem of accurately and conveniently measuring shrinkage during fulling in woolen and worsted mills. With this hand measuring machine, shrinkage is checked by opening the small door in the front of the fulling mill and holding the counter against the cloth from seam to seam as it runs through the mill. This eliminates the loss of time and inconvenience resulting from pulling cloth out on the floor several times and measuring it to see if it has shrunk to the desired length. The counter is rustproof and is said to measure accurately down to ⅛ yd.

Shrinkage-measuring counter (Durant)



Atomizer head (R. I. Humidifier)

Atomizer Head for Humidifying Systems

Reduction of installation and operating costs is said to be made possible by a recently introduced atomizer head for humidifying systems. The head, said to operate on a new and different principle, is a product of R. I. Humidifier & Ventilating Co., 99 Chauncy St., Boston. The head is available in capacities of 6 to 15 lb., and, it is stated, requires only half as much compressed air to deliver the same quantities of evaporation as did former models.

The new atomizer is said to be simple in construction, small and compact, and positive in operation. Its capacity can be varied without removal, simply by changing a cap. Air and water are both under controlled pressure.

Useful Accessories for Textile Mills

Exhaust and Supply Fans. Propellair, Inc., Springfield, Ohio, has developed a new line of exhaust and supply fans ranging in sizes from 12 to 60 in. This new line of fans has an entirely new ring and motor support assembly design which makes this one integral part made of cold rolled steel form to take the Propellair Ventura entrance housing.

Air Conditioning Compressor. Westinghouse Electric & Mfg. Co., 683 Page Blvd., Springfield, Mass., has developed a 100-ton, 16-cylinder hermetically sealed air-conditioning compressor. Extremely compact, this 90-deg., V-type unit requires but one-third the space and is but two-thirds as heavy as conventional compressors for the same capacity. In addition, it is said to be 12% more efficient.

Lighting Unit. Flex-O-Lite Co., St. Charles, Ill., has introduced a lighting unit for industrial and commercial use.

The unit is said to have a large light output that approaches true daylight; a life of 5,000 hr.; and to give two to three times the light of incandescent lamps using the same current. The unit has a power factor of 90% and produces 40 lumens per watt consumed.

Circuit Breaker. Cutler-Hammer, Inc., 315 N. 12th St., Milwaukee, Wis., has added the type MO Multi-Breaker, rated at 15 to 25 amp., to its C-H line of breakers. This small size breaker, which functions as an entrance or service switch with overload and short-circuit protection, can be installed wherever fused-type switches are employed.

Solenoid Valve. Hoppe Engineering Co., Indianapolis, Ind., has announced its Type-D solenoid valve for methyl chloride, sulphur dioxide, brine, air, oil, water, steam, and ammonia. When the electric pilot valve is closed, the line pressure will force the piston down and close the valve. When the pilot valve is electrically energized, it opens. Working pressures are 150 lb. for steam and 400 lb. for gas and liquids. Coils are impregnated to resist moisture and are designed for constant service.

New Chemicals

Wrinkle Finish

Development of a new type of coated finish for fabrics and other flexible materials is announced by New Wrinkle, Inc., Mutual Home Bldg., Dayton, Ohio. This finish, known as New Wrinkle, is described as a one-coat finish which will not chip or crack. The finish is sprayed, knifed, or rolled on to the fabric. It dries to a wrinkle finish of uniform texture—from small to coarse as required. The finish is available in a wide range of shades, including metallics. Among the textile applications found thus far for the new finish are for shoe fabrics, book cloths, drapery materials, and fabrics for women's purses. New Wrinkle, Inc., is granting licenses for use of the new finish to companies in various fields.

Synthetic Gum

A new synthetic resin gum has been announced recently by Rohm & Haas Co., 222 West Washington Sq., Philadelphia. This compound, known as RHotex A-20, is the sodium salt of a polymerized resin acid in an aqueous solution. The product has an unusually high viscosity and is soluble in water. It is readily miscible with acid, alkali, or salt solutions, but is not miscible with organic solvents. It is said to have excellent film-forming qualities, and good emulsifying and dispersing properties. Applications recommended by the manufacturer include as a water-soluble thickener; a clear, colorless film base; a solvent-resistant coating; a printing paste thickener; a warp sizing agent; an emulsifying and dispersing agent; and an adhesive compounder.

Methyl Oleate and Stearate

Methyl oleate and methyl stearate are now being produced commercially by Glyco Products Co., Inc., 148 Lafayette St., New York. These materials are insoluble in water, but are soluble in oils and organic solvents. Among the suggested uses are as plasticizers for various kinds of coatings and as carriers for dyes.

Refined Fatty Acids

Two new refined fatty acids for making liquid soaps have been announced by Quaker Chemical Products Corp., Conshohocken, Pa. Saponification of these materials, known as Quaker Refined Fatty Acids Nos. 21 and 31, with caustic soda produces an amber-colored liquid soap of low titre, which is said to be suitable for scouring various types of fabrics.

New Publications

New Edition of Textile World Yearbook

TEXTILE WORLD YEARBOOK AND CATALOG 1939; Textile World Publications, McGraw-Hill Publishing Co., Inc., 330 West 42nd St., New York.

The four previous editions of the combined Textile World Yearbook and Catalog have established enviable records as well-balanced reference books of value to mill men in all branches of the industry. In the 1939 edition all charts, tables, etc., have been revised and brought up to date where necessary, and considerable new data have been added. The first section on new equipment and chemicals, has of course been rewritten to include items described in TEXTILE WORLD from June 1, 1938 to June 1, 1939, and the items are arranged by processes rather than by branches of the industry for greater convenience of readers.

The second section, containing mill reference data, has been brought up to date and new material has been included. In other sections of the Yearbook are given chemical tests for textile men, statistical data on textile prices and activity, a directory of trade associations, a bibliography of textile books, and an index to TEXTILE WORLD for 1938.

The catalog section contains insertions by leading manufacturers of textile machinery, mill engineering equipment, mill supplies and accessories, dyes and chemicals, etc.

Following the catalog section are an index of machinery, equipment, and supply manufacturers; and a classified directory of textile machinery, equipment, textile chemicals, and supplies.

A copy of Textile World Yearbook and Catalog is sent free to mills listed in the Textile World Mill Directory and additional copies for any of these mills are charged at $2.50 per copy if ordered on company letterhead. To all others it is sold at $5 per copy.

A Question of Blood-Pressure

BETWEEN THE DEVIL, by Murrell Edmunds; E. P. Dutton & Co., New York; $2.50.

Southern textile manufacturers with high blood-pressure are advised *not* to read this novel. It is definitely a prejudiced book. The author apparently believes implicitly in the good old combination of a despotic cotton-mill baron, a hypocritical psalm-singing mayor, a lecherous mayor's son, a Madame, a clergyman, some hired thugs, and the rest of the characters that make up life in an industrial town as imagined by certain types of writers. The only new properties in this one are the Wagner Act and the CIO.

Nevertheless, textile manufacturers whose blood pressure is normal, and who are sort of interested in learning what some others think about them, will find it worth while to read Between the Devil. The scene is a small Virginia cotton-mill town, somewhere near Danville. There is plenty of action in it; the author has excellent sense of the dramatic, and there are probably just enough cases of sculduggery among textile mill managements to make it worth while for the vast majority of straight-shooting manufacturers to know what some of their competitors do, or are accused of doing.

A Tale of the Cotton Country

BOSS MAN; by Louis Cochran; The Caxton Printers, Ltd., Caldwell, Idaho; $2.50.

This book, with its setting, might be expected to be of interest to textile folks who naturally are interested in tales of the cotton country. But this reviewer does not recommend it. It is a story cut to the same old pattern of many southern novels of recent years, and it exploits the South in a vicious vein. It contains all the elements of ugliness: prostitution, drunkenness, seduction, miscegenation and a fancy lynching. The fact that all of these are packed into a fairly thin volume makes it too blood-and-thunder to be treated seriously.

The jacket blurb states the book is "vivid with authentic views of the Southland"—but this reviewer finds it vivid with something contradictory to "authentic."

Greenwood, the little town in the

Delta in which the story is laid, happens to be the place in which this reviewer lived many years. Nowhere in Mr. Cochran's book did I find either truth or beauty and in the Delta both can be found.

It would seem advisable for Mr. Cochran to get better acquainted with the section he claims to be from, before he writes about it again.

A Biography

SIDNEY HILLMAN: by George Soule; The MacMillan Co., New York; $2.50.

It's a fascinating story—this life of Sidney Hillman, who, through an indomitable will and great determination, has risen from the status of poor Russian immigrant to that of labor statesman. As Mr. Soule tells the story one gains admiration for the man, his firm belief in what is right for the worker, and his methods of approach in gaining his point for labor.

Mr. Hillman certainly had in the garment industry a fertile field in which to cultivate his talents for leadership. Testifying to his ability we find that Hillman's life and success run parallel with the success of his union, the Amalgamated Clothing Workers.

Of particular interest to textile executives should be the portions explaining the C.I.O. and its drive toward textile unionization.

Sidney Hillman is portrayed in this book as a man who is not a narrow trade unionist nor an impractical idealist, but one who works with confidence to mold better living for labor and still maintains just consideration for the employer. Granting that the biographer is sharply prejudiced on the side of his subject, nevertheless there is clear indication of a strong and sincere individual.

E. Kent Swift, president of Whitin Machine Works who was reelected president of National Association of Textile Machinery Dealers at their annual meeting in Boston on Oct. 18.

News of Suppliers

Mathieson Alkali Works has transferred J. K. Harrington from the New York office to Charlotte, N. C., as assistant to Fred O. Tilson, southern manager. At the same time M. K. Sanders was transferred from Tulsa, Okla., to the Atlanta office succeeding Geo. E. Missbach, who is now with F. H. Ross & Co., Mathison jobbers at Charlotte.

James K. Harrington, assistant to southern district sales manager, Mathieson Alkali Works, Charlotte, N. C.

Fidelity Machine Co., Philadelphia, through H. W. Anderson, president, has announced the acquisition of the business of George Rehfuss & Sons, Philadelphia, makers of a complete line of fringing and tassel machines.

United States Testing Co.'s Southern Testing House removed to new headquarters at 1200 Arlington Street, Greensboro, N. C., on Oct. 15. The larger quarters will facilitate handling the increased volume of testing in the South.

Solvay Sales Corp. has transferred R. E. Lowes from the New York office to Greensboro, N. C., where he will work under the direction of Harrel Pierce, southern district manager, Charlotte, N. C.

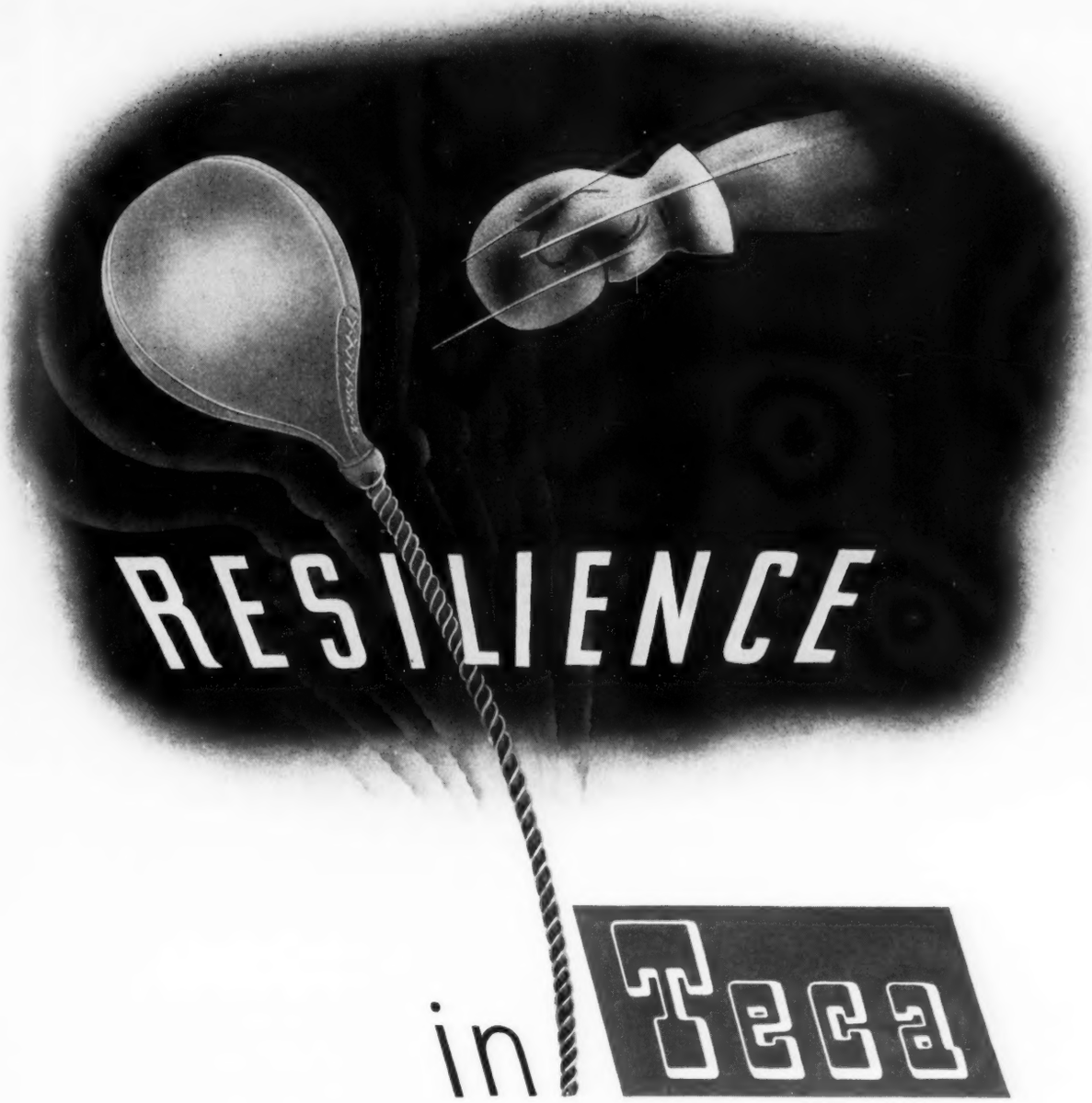
Link Belt Co., Chicago, reports the resignation as secretary-treasurer of Richard W. Yerkes, after half a century's work for the company. He will continue as a member of the board of directors. Harry E. Kellogg, who has been closely associated with Mr. Yerkes for the last 18 years, has been elected to succeed him as treasurer. F. V. McArthur, formerly assistant secretary, was elected secretary. Melbourne P. Anderson, formerly general credit manager, has been appointed chief accountant to succeed Mr. Kellogg. C. W. Marum succeeds Mr. Anderson.

Harry E. Kellogg, now treasurer of Link Belt Co., Chicago.

Graton & Knight Co., Worcester, Mass., industrial leather products, announces the addition of George L. Abbott to the organization as a director, vice-president and general sales manager. He will pay particular attention to strengthening the Graton & Knight mill-supply dealer set-up. He has had 25 years experience in the tanning and belting industry. He is vice-president of the American Leather Belting Association, vice-president of the Philadelphia Leather Belt Club and chairman of the exhibitors committee of the American Supply & Machinery Manufacturing Association.

George L. Abbott, vice-president and general sales manager of Graton & Knight.

Dodge Mfg. Corp., Mishawaka, Wis., has elected Joseph E. Otis, Jr., as president of the corporation, succeeding the late George C. Miller. Mr. Otis took office on Nov. 1. He comes to



Resilience . . . rebound . . . spring — call it whatever you like, it requires a very special quality to take hard punishment and come back for more. Teca fabrics have this special quality deliberately built into them. Crimped Teca fibers absorb the shocks of daily wear, resume their shape quickly. The higher the percentage of these crimped fibers, the greater crush-resistance and sag-resistance throughout the life of the fabric. Retailers have already displayed wide-spread interest in Teca fabrics. Now is the time to take advantage of their growing popularity.

Eastman
ACETATE RAYON

For further information consult A. M. Tenney Associates, 10 East 40th Street, New York City. Sales representatives for Tennessee Eastman Corporation, Kingsport, Tennessee, subsidiary of Eastman Kodak Company.

Timely cover of folder distributed by Wildman Mfg. Co., Norristown, Pa., for promotion of its rayon body machine, Style FBS-S. "An All-American in the Rayon Field", says the display type inside the folder. The football player's jersey is a switch of material knitted on the Wildman machine.

Dodge from the presidency of Stewart-Warner Corp. of Chicago, to which office he was elected in 1933. Previously he was for ten years vice-president and general manager of Alemite Corp.

Robert Reiner, Inc., Weehawken, N. J., reports that Dr. Robert Reiner has recently returned from Europe after a five-months sojourn there. This completes his 140th trip across the Atlantic Ocean.

American Monorail Co., Cleveland, Ohio, has reopened its branch office at Charlotte, N. C., in Commercial National Bank Bldg. R. G. Berlinghof, formerly sales engineer at the Cleveland office, has been appointed manager at Charlotte.

R. G. Berlinghof, manager of Charlotte office of American Monorail Co.

Textile Academy, New York, Arnold Rosenthal, director, opened a special, low-cost, evening course in general textiles on Oct. 17.

Victor Ring Traveler Co., Providence, R. I., has appointed W. L. Hudson to its southern staff as assistant to B. F. Barnes, Jr., representing Victor in Georgia and neighboring States. He will operate from Columbus, Ga.

Winternitz & Cairns, New York, advertising agency specializing in the textile field, is being succeeded by two separate firms—Robert Winternitz Advertising and John A. Cairns & Co. With Mr. Winternitz the principal associate will be Russell W. See. With Mr. Cairns will be Joseph H. Smith and Abraham Fisher.

H. & B. American Machine Co., Pawtucket, R. I., has established an export department to handle foreign sales, operating through the United States Machinery Co. H. & B. has also retained J. P. Mudd to travel in Latin America for them and to supplement the work of the export department.

Talladega Foundry & Machine Co., Huntsville, Ala., has been established by E. J. Ward for textile mill service.

Quaker City Chemical Co. has appointed J. G. Morgan as western representative with headquarters at Knoxville, Tenn.

Appalachian Coals, Inc., Cincinnati, Ohio, has added to its marketing division staff Harlow B. Mondey, prominently identified with coal sales work since 1921. He will be engaged in sales promotion, working with J. K. Taggart, former sales manager, Whitney & Kemmerer, Inc., Charlotte, N. C., who recently joined A.C.I. staff.

Atlantic Rayon Corp., Providence, R. I., has been appointed selling agent for spun rayon and blend yarns of Nemasket Mills Corp. division of Hoosac Mills Corp.

Mathieson Alkali Works, Inc., New York, has started work on the first commercial unit for production of Textone. It is stated that the plant will be in production before the end of the year. It represents the culmination of five years of study for a practicable, commercial process for making sodium chlorite ($NaClO_2$), one of the essential ingredients of Textone. The Textone output of the present pilot plant is currently being used by a few New England plants in single-operation scouring and bleaching processes, and as an adjunct to existing kier processes and by a number of other plants for experimental work pending the completion of the new commercial unit. Textone was described in the September issue of TEXTILE WORLD.

Public Relations Booklets

United States Testing Co., Hoboken, N. J., celebrating its sixtieth anniversary, has prepared a booklet for limited distribution titled "The History of a Great American Laboratory." This gives in chronological order the history of the company from its establishment in 1880 to the present day. Included are lists of the company's officers and directors, and of some 150 items of merchandise which have been tested.

Standard Oil Co. (Indiana), Chicago, in connection with its fiftieth anniversary, has issued a booklet titled "The First Fifty" which tells the story of the company's development. The booklet, which contains a number of photographs illustrating various phases of the company's business, is available for limited distribution.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has published a booklet titled "We've Gone Places Together" in honor of 38 of its employees who have been with the company for 50 years or more. The booklet contains a photograph and biography of each man; in addition, the men were feted at a banquet, and each received a gold watch.

Heads Red Cross Dyestuffs Group

E. K. Halbach has accepted the chairmanship of a Dyestuffs Group which has been organized to aid the 23rd annual membership roll call of New York Chapter of the American Red Cross which begins on Armistice Day. In urging full support, Chairman Halbach said:

"The American Red Cross offered its merciful aid to war sufferers immediately after hostilities began this fall, just as promptly as it helped hurricane victims less than a year earlier. There was no delay, for the Red Cross is always ready. It gave medical and hospital supplies. It gave aid to needy American war refugees. Red Cross volunteers at once started to make surgical dressings.

"This war relief, given by the Red Cross in addition to its many other helpful services, involved extra expense. Please remember this during the annual Roll Call for memberships and contributions to continue Red Cross work another year. Remember, that the American Red Cross is maintained entirely by voluntary support."

The Indianapolis starch refinery of NATIONAL STARCH PRODUCTS INC., *a complete modern unit at the service of the textile industry.*

Pearl and Fluidity Starches Made for Quality

From our newly-modernized starch refinery at Indianapolis, we now offer you a complete line of Corn Starches for warp sizing, printing, finishing, and every textile purpose.

These Starches are of highest quality and absolute uniformity, having been refined under our rigid system of control and highly specialized methods.

The services of our Textile Research Staff—a group of men well versed in the uses of starch in every phase of the textile industry—are at your disposal.

NATIONAL STARCH PRODUCTS INC.

820 GREENWICH ST., NEW YORK—CHICAGO—PHILADELPHIA—BOSTON—SAN FRANCISCO—*and All Principal Cities*

FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

Rayon Looms. Draper Corp. Leaflet discusses the company's various rayon looms brought out during the last 20 years, with special reference to the new high speed loom.

Leather Belting Calculator. J. E. Rhoads & Sons. Cardboard sliding-scale calculator based on A.L.B.A. tables computes belt speeds, horsepower per inch of belt width, and belt width required. These can be computed for various diameters and different belt operating conditions.

Clothroom Equipment. Hermas Machine Co. Illustrated leaflet describes automatic shear; vertical brush; duplex sewing and rolling machine; inspecting, winding, and measuring machine; and other clothroom equipment.

Textile Chemicals. Union Carbide & Carbon Corp. Illustrated booklet titled "Fine Chemicals" gives uses and characteristics of 63 organic chemicals of recent origin. Also, the book contains tables of physical properties of a great many chemical products, and specifications and container data for fine chemicals.

Oilless Bearings. R. W. Rhoades Metaline Co., Inc. Booklet describes company's various types of oilless bronze bearings and their uses.

Belt Drives. Allis-Chalmers Mfg. Co. First issue of "Texrope Topics" in new format contains articles concerning V-belt drives, and interesting news items.

Chemicals. E. F. Houghton & Co. October-November issue of "Houghton Line" contains articles on use of oils and wetting-out agents for Sanforizing, and on mildew preventives.

Looms. Crompton & Knowles Loom Works. Colored illustrated leaflet contains illustrations of several types of fabrics and discusses their production on various C & K looms.

Lubricating System. Bijur Lubricating Corp. Folder "Fourteen Reasons for Automatic Lubrication" serves as a quick reference on the subject of automatic, centralized, pressure-lubrication systems.

Voltage Regulators. General Electric Co. 14-page bulletin GEA-2150B describes diactor generator-voltage regulators Type GDD for direct-current machines; a number of wiring diagrams are included.

Package-Dyeing Machines. Venango Engineering Co. Illustrated folder describes company's all stainless-steel, vertical-spindle type, package-dyeing machine, said to operate on a new pneumatic principle which gives numerous advantages not available on former models.

Cloth-Inspecting Equipment. Birch Bros. Three data leaflets give information on and show photographs of machines for inspecting fabrics: Circular 690 describes a power weaveroom perch, Circular 770 gives data on a new cloth perch, and No. 768 covers a cotton-mill clothroom inspecting machine. A fourth leaflet, No. 763, describes a high-speed tacking machine manufactured by this company.

Sanforizing and Shrinking. Cluett, Peabody & Co., Inc. Three educational pamphlets: "The A B C of Sanforized Shrunk" tells what Sanforizing is and its advantages; "What To Do About Shrinking" tells how to buy garments that will not shrink; the third leaflet translates percentage shrinkage figures into what they mean as regards actual fit.

Roller Chain. Diamond Chain & Mfg. Co. Four-page pamphlet shows progress of roller-chain drive, from single to 16-strand, by a series of application illustrations.

Pumps and Compressors. Worthington Pump & Machinery Corp. Two bulletins, No. W-321-B13 describing company's Monobloc, turbine-driven, centrifugal pumps; No. L-611-B8 describing motor- and steam-driven feather-valve compressors in single-cylinder, single-stage types.

Cleaning. Quigley Co., Inc. 6-page pamphlet describes Annite, company's all-purpose cleansing product, said to operate effectively in hard, soft, or salt water.

Instruments. Julien P. Friez & Sons. Catalog K, in 24 pages, describes company's latest controlling, measuring, and recording instruments for automatic heating, refrigerating, and air conditioning installations.

Motor Control. Electric Controller & Mfg. Co., 8-page bulletin describes company's system of frequency relay magnetic control for a-c. wound-rotor motors.

Steel Products. Scully Steel Products Co. 1939 stock list and reference book contains 233 pages of data on products available.

Blowers. L. J. Wing Mfg. Co. Bulletin CO-3 describes new type of motor-driven blower for boilers to produce high static pressures at low speeds.

Gages. Manning, Maxwell & Moore, Inc. Revised gage book lists company's complete line of gages for all industries and services.

Tanks. California Redwood Association. Technical Bulletin describes use of wood tanks in textile and related operations, discusses effects of acid and alkali solutions; contains instructions for cleaning and painting new tanks.

Control Instruments. Bristol Co., Bulletin 512 describes company's system of coordinated process control; Bulletin 529 describes strip-chart resistance thermometers on which as many as eight temperature records may be made simultaneously; Bulletin 528 describes strip-chart pyrometers for making similar recordings at higher temperatures. No. 525 describes humidity recorders and controllers for air conditioning and heating and drying processes.

Bearings. New Departure Division, General Motors Corp. 50th Anniversary issue of "New Departure News" contains photographic history of bearing design development; included is photograph of machine on which textile bearing designs are tested.

Vacuum Pumps. Gardner-Denver Co. Bulletin RXV-10 describes company's horizontal, single cylinder, dry vacuum pumps; Bulletin HAC-40 describes horizontal, single-stage compressors.

Cleaners and Air Washers. B. F. Sturtevant Co. Revised catalog No. 368-2 gives information on company's industrial vacuum-cleaning systems, including methods of determining size, friction loss, type of system required, etc.; revised catalog No. 295-4 contains similar data on company's air washers.

Variable - Speed Equipment. Link-Belt Co. 40-page booklet, No. 1574, describes company's variable-speed transmission units, and includes data on new ½-hp. and 1½-hp. sizes.

Speed Changer. Allis-Chalmers Mfg. Co. A number of installation views feature the new 20-page, Vari-Pitch speed changer bulletin No. B-6013, which covers manual and electrical remote-control units, and contains dimension sheets, horse-power data, and speed-range tables.

Wire. Anaconda Wire & Cable Co. Revised catalog describes company's line of magnet wire and coils; contains data on current-carrying capacity, suitable applications, etc. Small-size pocket handbook contains technical table of information on these wires and coils.

Controllers. Foxboro Co. 31-page bulletin describes company's Rotax controllers for applications where "open and shut" or two-position control is desired; contains charts of temperature, humidity, liquid-level, and refrigeration control, and simplified explanations of many possible applications.

Chain Drive. Whitney Chain & Mfg. Co. 64-page catalog gives complete information on selection and design of company's silent-chain drive equipment; included are data on engineering, dimensions, horsepower ratings, etc.; and illustrations of typical installations in various industries.

Boiler-Room Instruments. Brown Instrument Co. Catalog No. 29-31 illustrates and gives data on various types of instruments manufactured by this company for use in boiler rooms.

ADVERTISING PAGES REMOVED

Textile World

ANNUAL EQUIPMENT CHECK-UP NUMBER . . . *FEATURING:*

MODERNIZATION FOR PROFIT

Money-Making Methods

A YEAR AND A MONTH AGO, we asked: "Can a Textile Man Make Money?" During the months since then, our readers have been answering that question for us under seven heads. This issue is a fitting climax to the campaign because, in the pages that follow, we offer 95 ways in which money can be saved, and therefore made, under the seventh head: *Modernization.*

Each case is an actual occurrence in a named mill. The methods by which improved quality, increased production, or lower costs were achieved range all the way from an expenditure of $325 for a small steam engine to drive a draft-fan and stoker, to an investment of $400,000 for a new power-plant. An attempt has been made to strike a balance between strictly productive textile machinery and auxiliary equipment.

Most of these particular installations have never been described in print before. A few outstanding cases have been condensed from previous issues.

Taken together, this is the most impressive proof of the advantages of modernization ever presented in a textile publication.

And yet, it is obviously only a small sample of the real story of the possibilities which lie in that direction. With more than 5000 mills in the textile industry, and with over 600 equipment and accessory manufacturers supplying those mills, it is a physical impossibility to present in one issue the complete story of modernization progress in all the plants, or of the contribution made to it by all the suppliers. What we *do* offer is a group of stories prepared by mill men, machinery men, contributors, engineers, and our staff editors. These stories can not even be called a cross-section. They are, as we said above, a sample. They merely *suggest* what may be done under the head, Modernization for Profit.

In the months to come, we plan to broaden this sample by presenting stories about other mills and about other types of equipment, on which data were not available for this section. We also expect to give additional information on many of the new installations described in the following pages.

Some of the very latest types of equipment have been available for so short a time that results obtained by actual installations are not yet available. Descriptions of these developments will be found in our Textile Equipment News in this and subsequent issues. Meanwhile we suggest that our readers, after reading these case studies, turn to pages 115 and 116, and check their own plants against the list of modernization possibilities.

TO ALL THE GROUPS, enumerated above, who gave us leads or actual stories, as well as to those who tried to cooperate but were unable to supply information in line with our specifications, we wish to express our indebtedness. We solicit their continued help so that the industry may be kept continually alert to the demands of modernization.

For this *is* a demand subject. There is no longer the choice between a decision to modernize and a decision to temporize. The effect of wage-hour legislation, of machinery development, of synthetic-fiber progress, and of other new trends, has been to *force* textile manufacturers to keep their buildings, their machines, their accessories, their supplies, and their methods up to date if they are to continue in the race. The sooner the individual textile man realizes that fact, the better for him.

And so, in the belief that the implications of this special section hold the key to salvation for many textile mills, we offer it to our readers as another stage in the thinking developed by our question: "Can a Textile Man Make Money?"

Douglas G. Woolf

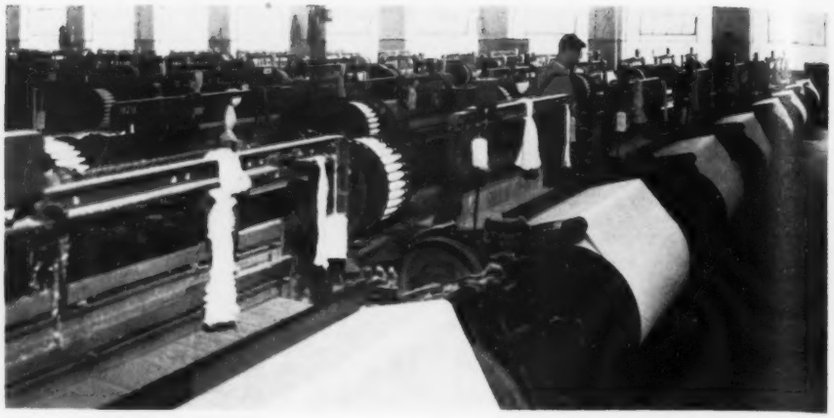
1

Straight-Line Production Flow

JOANNA COTTON MILLS, Goldville, S. C., under the direction of William A. Moorhead, manager, has practically completed an extensive modernization and expansion program inaugurated several years ago. A three-story addition to the mill—approximately 60,000 sq.ft. —was made recently. To increase the efficiency of operation throughout the plant equipment was rearranged to give as nearly as possible a straight-line flow of production.

Modern Saco-Lowell opening equipment, one-process pickers with blending reserves, and long-draft roving and spinning were installed. The mill now has all spindles—nearly 90,000—on long draft. Parks-Cramer cleaners are used over the spinning frames, and the humidifying system has been revamped and augmented by use of Bahnson humidifiers. With this new equipment, speeds have been increased and the mill is getting not only more production but a more even yarn. Barber-Colman automatic spooling and warping equipment was installed, and new 40- and 46-in. X-Model Draper looms replaced 902 old E-Model looms in the weaving department. In the cloth room the latest model Parks & Woolson shearing and brushing machines were added. Within recent months a modern lighting system was installed throughout the entire plant by Huntington & Guerry, Inc., electrical contractors.

The expansion program called for the employment of 150 additional workers and, together with the modernization work, has boosted production of the plant approximately 30%.



Weave room of Joanna Cotton Mills showing new high-speed looms

2

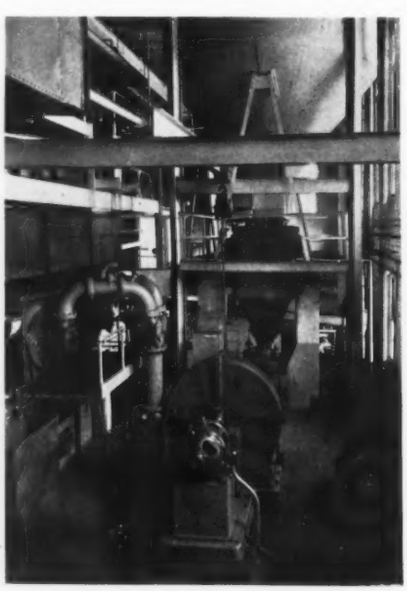
Insures Against Shut-Downs

CONTINUED EXPANSION of various departments requiring steam at Lewiston Bleachery & Dye Works (a division of Pepperill Mfg. Co.), Lewiston, Me., made increases in the boiler plant imperative. There was also the question of mounting cost of plant maintenance and decreasing efficiencies—both being due to increasing loads, age, and obsolescence.

A single boiler of 72,000 lb. per hr. capacity continuous was installed to take the place of three older stoker-fired water-tube units. The new boiler was built by Riley Stoker Corp., and is now operated on pulverized bituminous coal, but is designed for quick and economical change-over to oil.

Its capacity is 30% greater than the three older boilers combined. It supplies the entire plant or base load at considerable saving, not only in tonnage of fuel burned, but also in the cost per ton, due to the lower grade of coal it is possible to burn at higher efficiencies.

There is now much more room than was previously available on the boiler-room floor, due to the installation of a 40-ton overhead bunker with Jeffrey screw conveyors and Richardson automatic scales—this equipment serving both the new and the old boilers, and making it possible to clear the wide space in front of the boilers formerly used for the daily coal supply. The new boiler operates at 125 lb. gage, and 40° F. superheat; it is equipped with the necessary steam-flow, air-flow, flue-gas temperature-recording instruments, etc. There is also a new Cochrane de-aerating heater.



View in modernized boiler room at Lewiston Bleachery & Dye Works

Although the new plant has been in service but a little over a year, the savings apparently will be sufficient to make the plant self-liquidating within five years. Other gains are the increased boiler capacity, which was absolutely necessary—to say nothing of insurance against shut-down.

For the future, additional operating economies are possible, due to the fact that the boiler is designed for 450-lb. pressure and 200° F. superheat; that is, for operation as part of a topping plant, after the installation of a steam turbo-generator.

The installation was made under the direction of F. P. Sheldon & Son.

3

Better Scouring With Instruments

A 200% INCREASE in business during the last ten years is the record of East Weymouth Wool Scouring Co., East Weymouth, Mass. Continuous modernization of equipment and processes, and development cooperation with machinery manufacturers and research technicians is given as the reason for the mill's success by Bryan Leonard, president.

The company is successfully operating what is said to be the first commission wool-frosting installation. Improvements made in the process since it was first announced are due in no small part to Mr. Leonard's own experiments with his machine, and those of outside experts in his plant.

Installation of a recently developed system of complete instrument control of scouring in otherwise conventional equipment, and for recovery of wool grease and of cleaning of scouring

liquor so that it can be re-used, is the latest progressive step which the mill has taken. Operation of the system, according to Mr. Leonard, "gives a better job of scouring as regards handle, color, uniformity, and strength. It makes possible uniform control of both processes and wool." The new process also makes possible recovery of a larger percentage of wool grease than has been possible heretofore.

Essentially, the control system comprises a group of measuring and recording instruments by means of which various factors affecting scouring can be checked at frequent intervals. All the instruments operate at from instantaneous to 15 min., no test requiring a longer period. The factors tested by means of the instruments are grease in liquor, grease in wool, soap in wool, sediment in liquor, soap in liquor, alkali in liquor, suint in liquor, bicarbonates in liquor, free caustic in liquor, water in grease, moisture content of wool.

The recovery system removes the grease and sediment automatically from the contaminated liquor; and the clean soap, water, and alkali are returned to the scouring bowls for re-use.

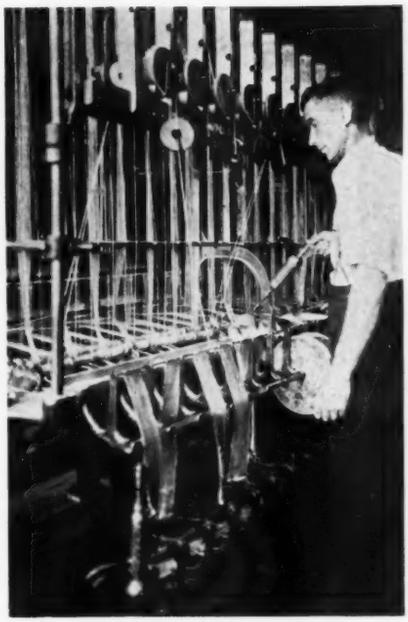
American Chemical Paint Co. developed the system, and the instruments used in connection with it, and made the installation. DeLaval Steam Turbine Co. developed the centrifuge employed to separate the various components of the contaminated liquor. East Weymouth Wool Scouring Co. uses five-bowl scouring sets made by James Hunter Machine Co. and C. G. Sargent's Sons Corp., and dryers manufactured by Proctor & Schwartz, Inc., and James Hunter Machine Co.

4

Cuts Down Bearing Failures

COSTLY REPAIRS to looms due to bearing failures have been unknown for more than nine years in the Brockton, Mass., plant of Stretch & Kendrick, Inc., elastic textile manufacturer. Early in 1930, Alemite fittings were put on the Crompton & Knowles narrow fabric looms. Since then there has been no trouble from bearing failures.

Machines formerly oiled daily are now Alemited once a week. Looms that were once lubricated weekly are now Alemite lubricated once every three weeks. In addition to a saving of 16 man-hours per week, the modern lubrication methods used by Stretch & Kendrick, Inc., have done away with messy and dangerous floors and machines, and prevented contamination of products.



Lubricating narrow-fabric looms at Stretch & Kendrick plant

5

Yarn-Speed Up, Breakage Reduced

NUMEROUS ADVANTAGES have been reported by the management of Belmont (N. C.) Throwing Co. as the result of installation of modern twisters and doubler-twisters. The new equipment consists of Atwood Machine Co., 5B doubler-twisters for over-end delivery and Atwood Uni-Rail twisters.

An interesting feature of the over-end delivery is that it can be used with silk or rayon yarns from either bobbins or cones and it is possible to switch to side delivery at will. Because the bobbins on the 5B's remain stationary, higher yarn speeds can be employed and a balanced feed maintained from each bobbin. There is no wear on the bobbin holes and each end of yarn is under a soft and even tension. Breakage is greatly reduced. There is nothing to adjust in the over-end delivery and threading up is exceedingly easy. The position of the take-off permits ready replacement of bobbins.

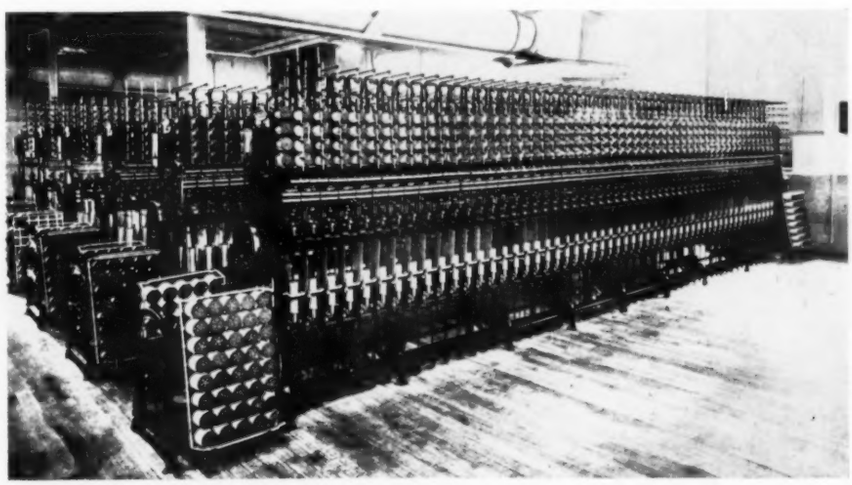
The twisters permit the plant to take advantage of the increased efficiency and economy of large-package operation, as they produce packages with 7-in. traverse, 8 oz. in weight. Since the rail is a solid, one-piece unit, it provides permanent rigidity and trouble-free operation.

6

Gives Versatility in Half-Hose Mill

ELLIS HOSIERY MILLS, Hickory, N. C., began three years ago to make high-quality, fancy half-hose for men. Its first installation included a unit of Scott & Williams automatic, rib-top wrap machines. At the end of a year the machines had so conclusively proved their advantages that additional units of these machines are being installed as rapidly as the mill's organization can be expanded. Each unit is equipped with the latest features developed by the machine builders. The machines, therefore, are capable of producing either conventional half-hose or the increasingly popular self-supporting slack, with maximum variety in striping and wrap color patterning.

As soon as the mill was firmly established in the wrap half-hose field, it



New doubler-twisters at Belmont Throwing Co. are equipped for over-end delivery

turned its attention to the English broad-rib hose, installing a unit of Komet machines. A year later, when the links-and-links Komet machine became available, a unit of these machines was installed for the manufacture of fancy broad-rib half-hose selling in the higher-priced brackets. So satisfactory has the mill's experience been with these machines that it is now awaiting receipt of additional units.

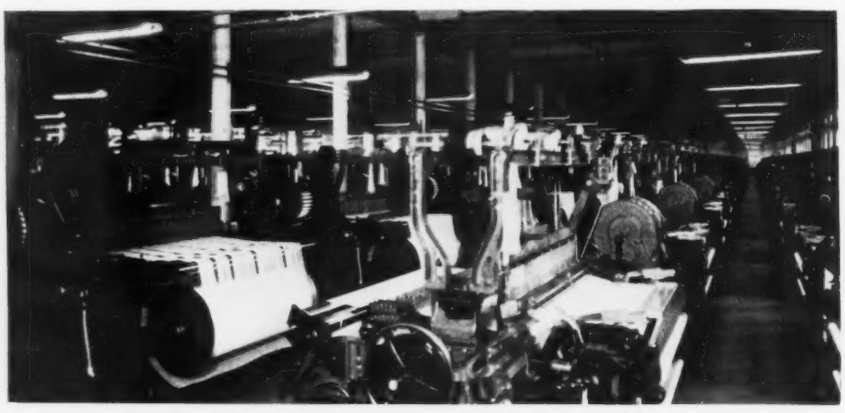
Since the Komet machines and the majority of the wrap-type machines in this mill knit complete half-hose automatically, knitters can operate such an increased number of machines that the direct knitting cost is most economical. Indirect expense in the knitting room is also kept at a minimum because both types of machines operate efficiently, economically, and with a minimum of waste.

7

Light Raised to 20 Foot-Candles

A PROBLEM at the Paul Whitin Mfg. Co., Northbridge, Mass., was to provide a substantial increase in quantity of light in a large weave shed, and at the same time provide better quality illumination from the standpoint of source brightness, distribution, shadows, and color quality, without an appreciable increase in equipment and operating costs. This is accomplished in a highly satisfactory manner through the use of fluorescent lamps. Installation of 132 Hygrade Sylvania Corp. HF-100 Industrial Units increased the average illumination level from 9 foot-candles to about 20 foot-candles.

The results were obtained by careful placement of units 8½ ft. from the floor over the weaver's alley. This method seems to be generally satisfactory, since high levels of illumination are not required along the warp alley. The fact that the sources are 4 ft. in length and suspended at right angles to the alley also enhances the distribution characteristics of the system.



Fluorescent lighting installed in weave room at Paul Whitin Mfg. Co.

8

Dyeing Improved; Costs Lowered

"THESE MACHINES have worked to very good advantage in our plant," say the executives of Anchor Thread Co., Groveville, N. J., in describing their satisfaction with stainless-steel package-dyeing machines installed during the last year. Ease of loading and unloading, increased flow of liquor, and the numerous automatic features built into the machines are given as three primary reasons for this satisfaction.

Savings in time have resulted from the fact that the new equipment is so built that loading and unloading are simplified. More level dyeings have resulted from the increased flow of liquor through the material being dyed which the new machines give, and also by several automatic features of the equipment. Reduction of labor in the dyehouse has also been made possible by various of these automatic features. There has been practically no maintenance on the machines.

So far, three of these stainless-steel, package-dyeing machines have been installed by Anchor Thread Co., and a fourth is at present being installed. All were manufactured by Smith, Drum & Co. The new machines are being used to replace older iron equipment, and to take care of expansion of the company's business.

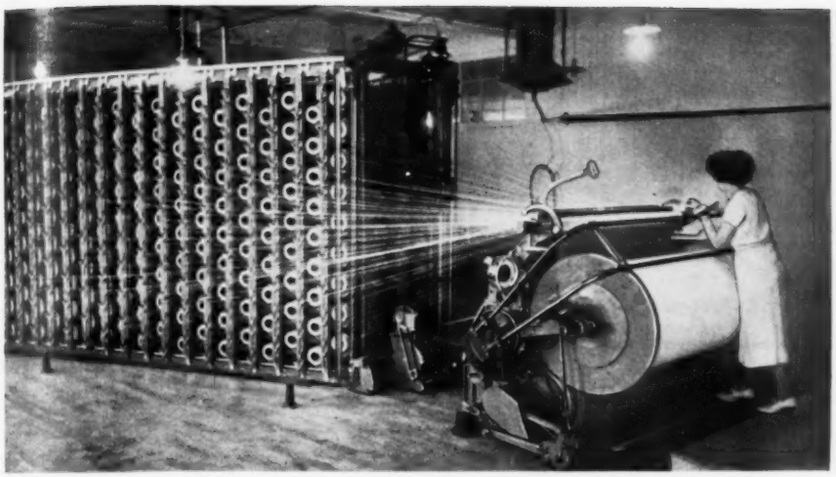
Stainless-steel package dyeing machines at Anchor Thread Co.

9

Meets Future Power Needs

WITH THE INCREASE in business, due to the popularity of Palm Beach clothing, Goodall Worsted Co., Sanford, Me., found it necessary to provide a power distribution system which can meet increased production demands in the future without a large initial financial outlay. The system adopted was the Flex-A-Power distribution system manufactured by Trumbull Electric Mfg. Co. This system replaces conduit, panelboards, and many of the conventional safety switches. Busbars are inclosed in a steel housing, and at 12-in. intervals the housing is provided with openings designed to receive Flex-A-Plugs. These plugs are in the form of cutout boxes, fused safety switches, or air circuit breakers, as required. Their purpose is to provide over-current protection to the motor branch circuit, which is generally run from these plugs in conduit and wire to the controllers. Ample future capacity is provided by the vast number of outlets along the entire system.

One of the chief advantages of the system is that it has provided the vari-



View of Nashua Mfg. Co's. high-speed warping equipment

ous units of the plant with a high degree of flexibility. In addition, it has all of the safety features of interlocking Type A switches and completely inclosed conduit.

10

Nine Benefits of Air-Conditioning

NINE DISTINCT ADVANTAGES have resulted from installation of air-conditioning equipment in the plant of Archer Hosiery Mills, Columbus, Ga. These are: (1) increased production, (2) fewer seconds, (3) greater uniformity in quality of product, (4) fewer absentees during hot summer months, (5) more harmonious employer-employee relations, (6) proper machinery adjustment prevails, (7) less drying time required on boarding forms, (8) proper regain maintained throughout entire cycle of manufacture of silk hose, and (9) greater efficiency of operatives.

Air conditioning installations were made in 1938 and 1939. The 1938 installation consisted of two complete Carrier Corp. central-station systems—one serving the first floor finishing room, storage room, offices, and second floor gray room; the other serving the boarding room. The original boarding-room installation consisted of a central-station evaporative-cooling system. The other system included refrigeration for cooling the room air to the proper degree and humidity during summer and heating during winter, thus providing constant conditions the year round. The 1939 installation consisted of additional refrigeration to cool the boarding room during summer on a par with the gray room and finishing room.

11

Faster Warping Cuts Costs

INSTALLATION of high-speed spooling and warping equipment at Nashua (N. H.) Mfg. Co. has resulted in "better weaving yarn, which in turn means higher loom production and better quality," according to the superintendent of this prominent cotton mill. Each of the new spooler and warper units now installed can handle about 50,000 lb. of 20s yarn in 80 hr. On the basis of this production, the mill has been able to retire eight old-type spoolers and warpers for each new unit installed.

The new machinery has been operated approximately 2½ yr. and its advantages have been conclusively demonstrated in that time. The mill's superintendent says that "cost of preparing beams is much lower than by the old method, and there is less yarn on hand in process. More elasticity is left in yarn, due to less tension on the spooler and warper. Also, tension is uniform throughout." The new high-speed spooling and warping equipment was manufactured by Barber-Colman Co.

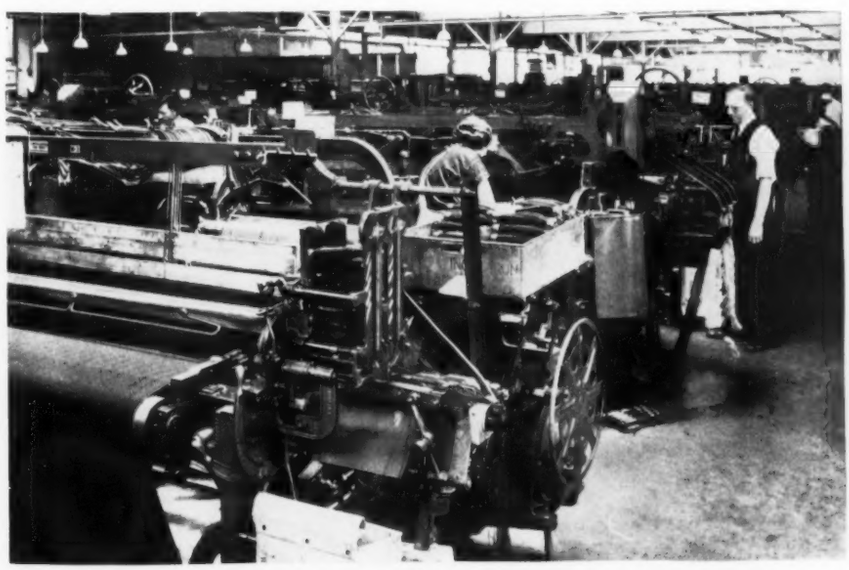
12

Better Weaving at Higher Speeds

MODERN, IMPROVED, and faster looms have enabled Princeton Worsted Mills, Inc., Trenton, N. J., to reduce weaving costs. Princeton is known as a producer of exceptionally well-styled fine worsted suitings, topcoatings, and overcoatings. The company manufactures a wide range of fabrics from 9 to 32 oz. per yd.

A year and a half ago this mill completed a weave-shed modernization program which resulted in the company's having one of the most efficient woolen and worsted weaving departments in the industry. The program was started about six years ago, with erection of a modern building in which to house the weaving department. In this was installed a unit of Model W2 and W3 looms constructed by Crompton & Knowles Loom Works. Installation of new looms and retiring of older types continued at intervals until 96 modern looms were in place.

The speed at which the new looms operate averages about 15 to 20 picks per min. faster than before and effi-



Unit of high-speed, convertible, automatic looms in Princeton Worsted Mills

ciency runs between 85 and 90%, as against a former 70%.

The W3 looms are of the latest convertible type. They can be changed from 4x1-box automatic operation to 4x4-box pick-and-pick operation, or vice versa, in a very short time.

13

Hosiery Dyes More Uniformly

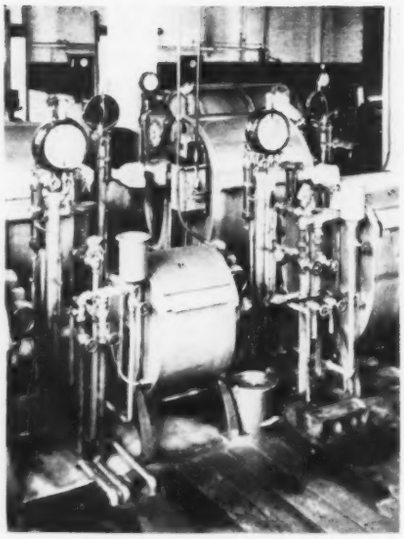
MORE UNIFORM DYEINGS, easier and better matches, reduction in percentage of redyes, and savings in chemicals and steam, are among the advantages obtained by installation of control instruments on the dyeing machines in the plant of Holeproof Hosiery Co., Milwaukee, Wis. In addition, automatic control of time and temperature does away with hand manipulation of valves, freeing the operators for other duties.

The system installed in this plant consists of Foxboro dye-machine controllers with elapsed-time feature. The elapsed time temperature controller raises the temperature of the bath to the point desired and holds this temperature for a definite period of time. When the time is up, the controller shuts off the steam and turns on a signal light. A chart gives a complete record of the operation.

14

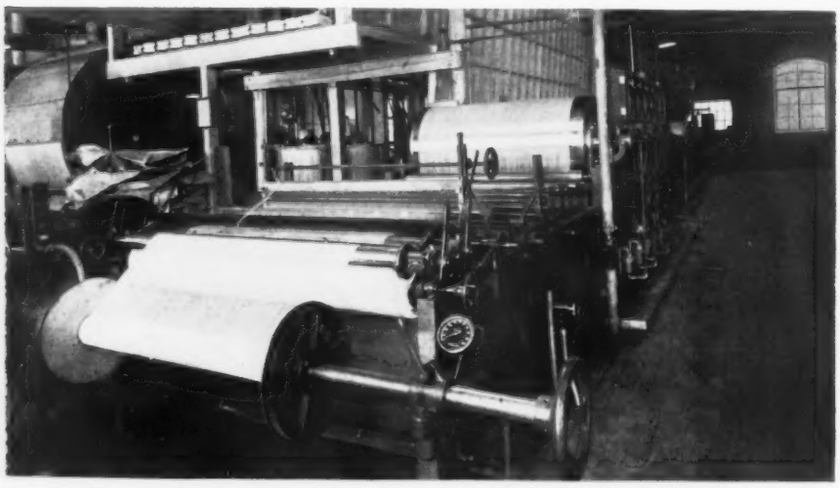
Controls Tension in Rayon Sizing

AS A FURTHER ADJUNCT to the manufacture of high-quality rayon fabrics Abbeville (S. C.) Cotton Mills have recently installed a new seven-cylinder slasher. With this machine the mill is able to maintain accurate control of tension on the warp and to obtain speeds of 90 yd. per min., or even higher, on some light warps. Automatic control instruments maintain the proper temperature and liquid level on size box, and temperature of drying cylinders, thus insuring uniform sizing.



Dyeing machines at Holeproof Hosiery Co. are equipped with automatic control instruments

The slasher was built by Cocker Machine & Foundry Co. and is fitted with the American slasher control system made by Manning, Maxwell, & Moore, Inc. The stainless steel size box and quetsch rolls insure against formation of verdigris and reduce maintenance costs. Main drive is a variable-speed arrangement with a speed range of 25:1, with a graduated acceleration and deceleration. With this arrangement, sudden jerks on the warp are eliminated when the machine is started or stopped. Speed of the machine can be changed at will to accommodate warps of different weights; a tachometer on the head end gives the operator a constant check on the speed.



Seven-cylinder high-speed slasher installed at Abbeville Cotton Mills

15

Novel Drive for Fan and Stoker

POWER COSTS for driving a draft fan and stoker have been cut 57%. This saving was made by Magee Carpet Co., Bloomsburg, Pa., after installation of a 3¼x4-in. steam engine, which operates 4,380 hr. per year. The engine has a boiler-horsepower of 2.4 at 300 r.p.m., and operates with steam at 150-lb. gage pressure and 100° F. superheat. Feedwater temperature is 210° F. Cost of steam is 15c. per 1,000 lb. at a consumption of 136 lb. per hr. Heat left in the exhaust is 92% and heat chargeable to the engine is 8%. Power cost at the stoker shaft is equivalent to 0.7c. per kw.-hr.

Total annual operating cost—including depreciation, maintenance, steam chargeable to engine, etc.—is $67.77, compared with a total annual motor cost—including purchased current at 1¼c. per kw.-hr.—of $159.10. Savings equal 25% return per year on the investment. The engine was built by Troy Engine & Machine Co.

16

Larger Packages, Higher Speeds

SAVINGS IN TIME and labor have resulted from the larger packages and higher speeds obtained through modernization work carried out in the several plants of Victor-Monaghan Co. At the Monaghan plant, in Greenville, S. C., the company has recently installed approximately 23,000 Whitin long-draft spindles on warp; at the same time, Whitin long-draft attachments were placed on 10,000 filling spindles. A Barber-Colman automatic spooler and warper of newest type was purchased for special fancy work. Another step in the modernization program was the replacement of older equipment with 560 Draper 44-in. X-5 Model, 20 harness, high-speed dobby looms. More satisfactory operating and working conditions followed the modernization of the air conditioning system in the card room and weave shed.

All roving in the Victor plant in Greer, and in the Apalache plant in Arlington, S. C., is now long-draft two-process recently installed.

17

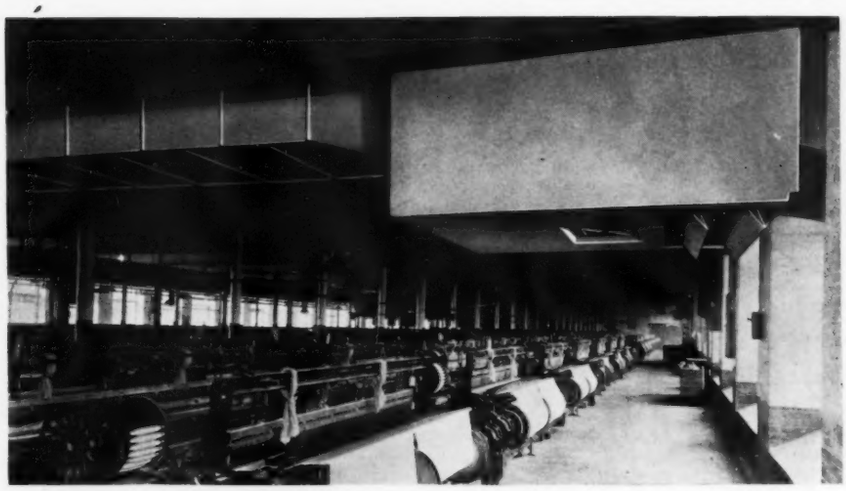
Saves Inter-Plant Transportation

A MODERN TOWEL-YARN dyeing plant in the South is scheduled to begin operations at Georgia-Kincaid Mills, Griffin, Ga., this month. The plant is a compact, self-contained unit which will handle the bleaching and dyeing of all yarns—including beams, packages, and roving—going into towels manufactured by the Georgia-Kincaid group. The new plant is located adjacent to Mill No. 1, which weaves the bulk of the colored yarns produced. This is more convenient and less costly than transporting the yarn back and forth to the dyeing plant of Lowell Bleachery South, in another section of Griffin, where this type of work was formerly done.

The building, 42x62 ft., is of brick, steel, and reinforced concrete construction, one story and basement. A unique feature is the Mono-Vent continuous-ridge-type ventilator, supplied by Burt Mfg. Co., which stretches along the entire length of the mill and is equipped with a new type of balanced damper and automatic heat valve. A continuous skylight, furnished by Pennsylvania Wire Glass Co., assures an adequate supply of natural light through special corrugated actinic glass. The roof of the building is self-supporting so that no posts or columns are necessary anywhere inside the bleaching, dyeing, and drying room. This absence of obstruction makes possible the use of a crane with electric hoist at any point inside to handle the heavy beams and package-carriers loaded with yarn as they go to and from the dyeing machines and dryers. The crane and hoist were supplied by American Monorail Co. Steelwork is painted with Rustoleum Rust-Preventive paint.

Major dyeing equipment consists of three two-kier Gaston County stainless steel units fitted with automatic time-temperature controls, a pressure-type extractor, and two four-port dryers equipped with multi-stage blowers. Each two-kier machine will hold 600 lb. of yarn for both bleaching and dyeing. All this machinery is driven by Reliance Electric & Engineering Co. motors with glass-insulated windings designed to resist moisture and fumes. There is also a storage-type hot-water heater made by Whitlock Coil Pipe Co. All water used in bleaching and dyeing is softened by vertical zeolite softeners located in the basement of the building; this equipment was made by Roberts Filter Mfg. Co. Stainless steel is used in all machines coming into contact with dye liquors so as to avoid any possibility of shading off, such as sometimes occurs in old cast-iron machines. All pipes and valves on the Gaston County machines are of cast stainless steel. Steam used in dyeing and drying is metered by a steam flowmeter manufactured by Morey-Jones, Ltd. Crane Co. steam traps are used through the complete steam piping and heating system.

J. E. Sirrine & Co. designed the plant and supervised its construction.



Nashua Mfg. Co. was one of first mills to install this type of equipment for maintaining more uniform humidity and temperature throughout the weave room

18

Improved Weave Room Conditions

IN 1934, THE EXECUTIVES of Nashua (N. H.) Mfg. Co. did some pioneering. They installed in the weave room of their plant a type of air-conditioning equipment which few mills had at that time. The results secured were and are eminently satisfactory. A unique feature of the equipment is the control of air change from a humidity instrument balancing the humidity capacity and requirements with air change. Cooling effect is obtained in hot weather by maximum air change and evaporation, but without sacrifice of the desired relative humidity. The benefits of this equipment—a Parks Automatic Airchanger, manufactured by Parks-Cramer Co.—include a more uniform humidity, regain, and temperature throughout the room; increased production; and more comfortable working conditions for employees.

19

Clean Floors Cut Accidents, Waste

"OUR NEW FLOOR-CLEANING EQUIPMENT is doing a splendid job. We are very well satisfied with it." This is the way Continental Mills, Inc., Philadelphia, describes its experience during the last four months with a combination scrubbing, rinsing, and drying machine which it installed. The equipment is being used in the mill's carding and spinning departments for a weekly scrubbing of the floor around the machines, to hold down the accumulation of oil on the surface of the wooden flooring. The oil in this particular case is no hazard from the standpoint of material spoilage, but its removal does decrease the possibility of employees slipping and getting hurt.

In addition to its use in the carding and spinning departments, the machine is also used once each week in certain sections of Continental's weaving, knitting, mending, and dry-finishing divisions. The purpose here is mainly to keep the floor clean to prevent soiling of materials in work, because, for the most part, these departments do not have the same condition of oil accumulations found in the carding and spinning departments.

"The total floor space covered weekly with one of the cleaning units, utilizing all of one man's time," according to the mills' management, "is in the neighborhood of 50,000 sq.ft. However, there is no doubt a greater area could be cov-

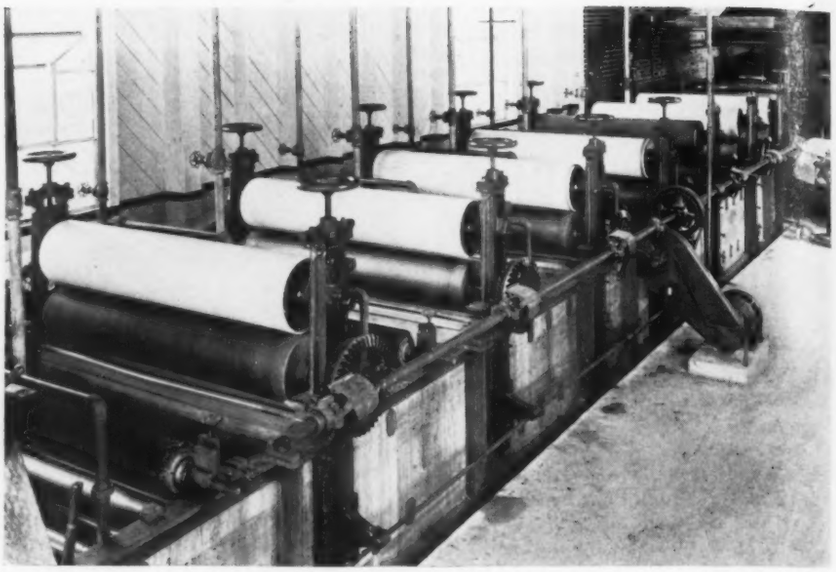
ered at the same time, and at a saving in labor cost, if it were clear, open floor space unobstructed by machinery, and if the work did not have to be done on a schedule that does not interfere materially with the productive activity in the departments."

The floor cleaner which Continental Mills are using is a Model 518 scrubbing-rinsing-drying machine manufactured by Finnell System, Inc.

20

Wash Fabrics at 12 Yd. per Min.

PIEDMONT PLUSH MILLS, Inc., Greenville, S. C., has not only balanced its washing equipment to take care of present dyehouse output, but has added surplus washing capacity to provide for future expansion. This was done by installing a seven-section continuous washer. The new machine is used primarily for washing mohair fabrics, designed for the furniture and automobile trade, and handles them at the rate of 12 yd. per min. Prior to installation of this machine, all washing was done in wooden tubs. This was not entirely satisfactory, because the goods tended to float when the required amount of soap was put in the washing solution. Furthermore, the soap solution had to be emptied periodically, which was a waste, and the goods required considerable handling.



W. B. Coxe

Seven-compartment continuous washer recently installed by Piedmont Plush Mills

The new washer, which was manufactured by Birch Bros., Inc., washes the goods much more thoroughly and conserves soap supplies. It is operated by two men, but runs only a few hours a day, which is sufficient for the present capacity of the dyeing and finishing department.

The machine, which is located in a specially constructed building, consists of seven wooden washing chambers equipped with brushes, brass immersion rolls, and rubber squeeze rolls. It is driven by a General Electric motor and Whitney chain drive. Hot soap and water just under the boil is placed in the first chamber, a slightly cooler solution of soap and water in the second chamber, and progressively cooler fresh water in the last five chambers.

Recovery of silk at McEwen Knitting Co. by backwinding imperfect hosiery

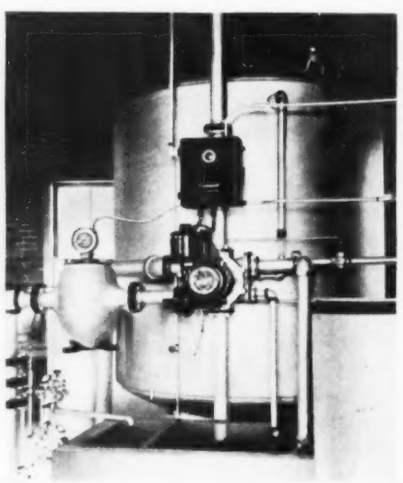
21

Salvages Silk by Backwinding

BACKWINDING of full-fashioned hosiery for recovery of silk from seconds and press-offs is made possible at McEwen Knitting Co., Inc., Burlington, N. C., by the recent installation of two new machines for this purpose. With current high prices of silk, the machines represent a worth-while investment.

The machine illustrated is a six-spindle, three-carrier mechanical-builder type, with stop motion. It is a product of Fidelity Machine Co. The recovery production of the machine is 6 oz. per hr. per unit of three spindles or per stocking. Heavier threads are wound at a proportionately greater poundage per hour.

Yarn breakage is said to be reduced to a minimum through the special methods by which the stockings are suspended and the bobbins are driven.

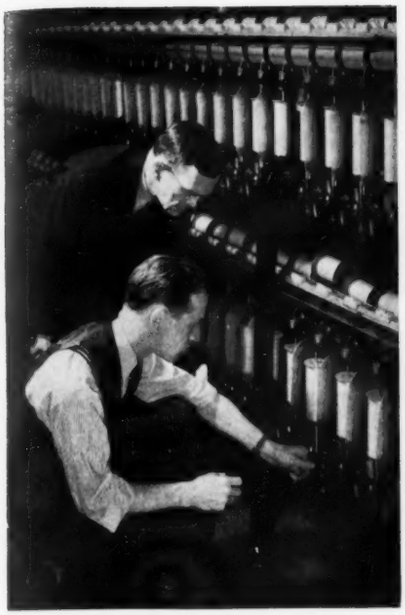


Modern zeolite softener of this type in Wharton, N. J. plant of Gotham Silk Hosiery Co. eliminates operating errors

22

Takes Advantage of Improvements

FOR 20 YEARS Onyx Hosiery, Inc., now a subsidiary of Gotham Silk Hosiery Co., has recognized the importance of conditioned water in maintaining high standards of quality. It has been the policy of this company to keep



Twisters at Sapona are designed for large-package high-speed operation

its water conditioning equipment up to date and to take advantage of new developments as they appeared.

In 1919 a Permutit Zeolite softener and a Permutit clarifier was installed in the company's Wharton, N. J., throwing plant to treat power make-up and to supply process requirements. Operating on a 3-grain water, this installation delivered 64,000 gal. of soft, clear water in 10 hr. In 1925 the softener was converted to a quick-regenerating unit, and the capacity was increased to 100,000 gal. in 10 hr. From 1925 to 1938 the equipment was inspected regularly. The filter media were renewed and several cubic feet of zeolite was replaced in the softener. Then in 1938 a new Permutit single-valve zeolite softener was added to the plant, which increased its capacity 2,700 gal. per hr. This new unit has greatly simplified control and effected marked economies in salt and water.

23

Obtains Balanced Package Throwing

THE SILK THROWING DIVISION of Sapona Cotton Mills, Cedar Falls, N. C., feels that its modern installation of winding, doubling-twisting, and twisting equipment has demonstrated without doubt the value of the balanced-package system of high-speed, large-package production. With this installation, operation is perfectly balanced; the packages are not only larger, but they come out even from winder to 5B, 5B to twister, and twister to coner. Production and control are vastly simplified because of the lack of variation in the number of package units from one operation to the next. The larger packages automatically reduce the amount of handling, doffing, and weighing. Waste of yarn, as well as waste of time and labor, is greatly reduced. Costs are lower, quality is higher, and production has increased.

In effecting the modernization project, the Sapona management worked closely with the engineers of Atwood Machine Co. Officials of the company state that every one of the 9,000 Atwood spindles installed has been operating smoothly and efficiently at high speeds and that there has not been a single spindle failure from any cause.

24

Synchronized Operations

AT SALISBURY (N. C.) Cotton Mills some rather exacting requirements had to be met in conjunction with the driving of a finishing range. This range consists of a starch mangle and three stacks of dry cans, each having fourteen cans 23 in. in diameter. Many different kinds of cloth are handled, and different speed is required for each kind over an infinite range from a minimum of 12 yd. to a maximum of 96 yd. per min.

For some requirements regulated tension must be maintained on the cloth from the mangle to the wind-up at the end of the third stack of cans. However, in some cases it is desired to shrink the cloth between the first and second or second and third stacks by letting it run slack at these points. This is accomplished by a change in tension, accomplished through a change in speed between the sections.

To get these results the following set-up was made: A No. 4-B Reeves Pulley Co. variable-speed transmission with individual motor drive and electric remote control directly controls the speed of the mangle and, through the three other transmissions, the speed of the entire line.

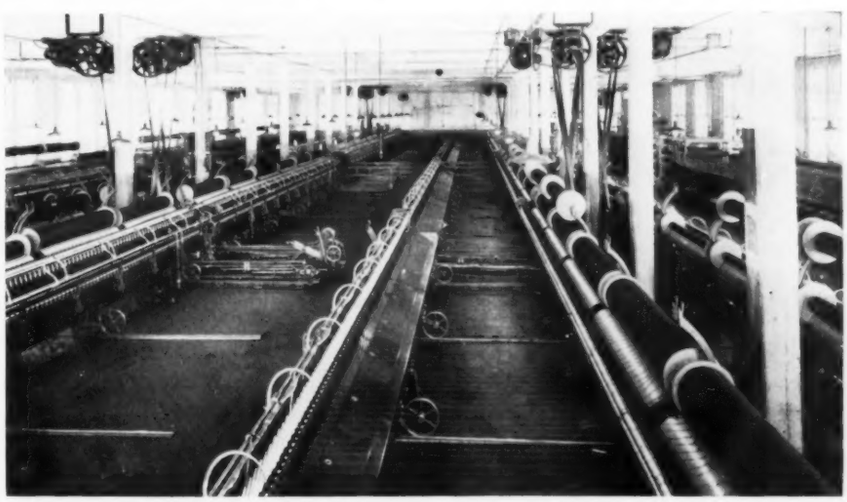
When regulated tension is desired, all four units operate in such close synchronization that the cloth is wound up at almost exactly the same speed at which it goes through the mangle. However, when it is desired to vary the tension between any two stacks of dry cans, this can be done by changing the speed of any of the three manually controlled transmissions. Change in tension, to provide some degree of preshrinking, in many cases eliminates the necessity of running the cloth through a Sanforizing machine more than once, thus saving an extra operation.

25

Operatives Share Savings

PRODUCTION PER SPINDLE was increased 50% by installation of large-package machines at Atlanta (Ga.) Woolen Mills. This company stresses quality work and ordinarily uses fine counts of yarn.

Eleven new Giant-Package mules of 288 spindles each have replaced sixteen old mules of 399 spindles each. Each mule is individually driven by a ball-bearing type motor, through a multiple Texrope drive to a ball-bearing countershaft. A 3-in. double belt completes the



Eleven new mules have replaced sixteen older machines at Atlanta Woolen Mills

drive to the mule head. Individual drive allows each machine to be shut down when required, without affecting other machines. A start-and-stop button is conveniently located within reach of the mule operator at the quadrant.

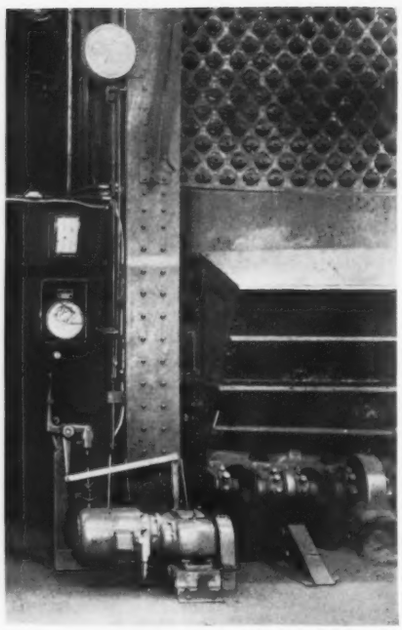
The new machines, built by Johnson & Bassett, spin approximately the same amount of yarn as the old, but production per spindle is increased 49.2%. This is possible because the Giant-package bobbin contains up to 6½ times as much yarn as the small package, without any decrease in spindle speed. This results in a saving in doffing time. Also, a considerable saving in spooling time is effected. A decrease in knots permits weaving of finer fabric. There is a saving in floor space and in labor costs. The mill found it possible to increase the hourly rate of pay more than 10%. Thus the operatives have shared in the savings.

To supply the new spinning machines, two Soutex Machine Co. cards were installed, and ten old cards were reworked and provided with new Scotch feeds and two-cylinder finishers with tape condensers. These cards now deliver onto four roving spools of 24 ends each, 65 in. long, with 13½-in. heads.

26

Humidity Held to Close Limits

PRODUCTION of Pequot sheets by Naumkeag Steam Cotton Co., Salem, Mass., has called for modern production methods and up-to-date systems of quality control. Thus, in the last three years an extensive program of machinery replacement and modernization has been effected. One of the most recent steps has been the modernizing of the humidification system and its control



Two of seven boilers equipped with complete automatic combustion control at plant of Riverside & Dan River Cotton Mills

in the weave room. This weave room covers over 9 acres and houses approximately 4,000 looms.

Early in 1939, it was decided to replace the out-of-date humidifying system in this room with a modern installation, complete with automatic control. The necessity of replacing the old humidifying system had become more and more apparent in recent years. Of low capacity, it delivered low grainage of moisture per cubic foot. Humidity distribution was poor, and the system was without automatic regulation. And, as the system aged, a great deal of free water was precipitated on to floors, making for the dangerous employee hazard of slipping and falling.

The new automatic humidification system was installed by American Moistening Co., and covers the entire weave shed. Amco No. 4 automatic self-cleaning atomizers with full Amco humidity control maintain the humidity within close limits. The accompanying illustration, showing about one-third of the weave shed, shows the uniform distribution of atomized spray provided by the new installation. Another important advantage is that fully maintained humidity makes for lower operating temperatures, because of cooling by evaporation, and higher efficiency of operatives naturally results.

New humidifying system in weave shed at Naumkeag Steam Cotton Co. is automatically controlled to maintain humidity within close limits

27

Pays for Itself in Three Months

FUEL SAVINGS estimated at $37,000 annually have been effected by Riverside & Dan River Cotton Mills, Danville, Va., by installation of complete automatic combustion control on seven boilers. Records kept before and after the installation was made indicate that on the basis of full-time operation, the entire cost of meters, panel, and combustion control equipment was realized in three months.

In this control system, furnished by Bailey Meter Co., air supplied to the boilers is regulated in accordance with load changes as indicated by variations in steam pressure and continuous combustion economy is maintained by the steam flow-air flow relations of the boiler meters, which is used for controlling the speed of operation of the stoker through a variable-speed drive. In this way it automatically maintains most efficient combustion conditions in the boiler regardless of variations in load and fuel-bed conditions. The control equipment includes Bailey piston-type control drives for positioning uptake dampers and variable-speed gear for the stokers. Of a total of 6,845 boiler-horsepower regularly fired, 4,385 boiler-horsepower was equipped with automatic combustion control. Actual average evaporation by these boilers is about 10 lb. of steam per pound of coal.

During a period of nine weeks in 1938, with the combustion control in service, 9.55 lb. of steam was generated per lb. of coal. Evaporation for the year 1937 was 8.62 lb. of steam per lb. of coal. Applying 1937 operating conditions to the 1938 steam load during this nine-weeks' test period, 24,965,420 lb. of coal would have been burned, against the 22,535,555 lb. actually consumed. A saving of 2,429,865 lb. of coal at $3.90 per ton, results in a saving of $4,738. The actual saving is even greater, because of the fact during this nine-weeks'

test the boilers were not operating seven days a week, but on an average of only four days a week. In addition, the seven automatic-control equipped boilers were carrying with them three boilers with no control whatsoever.

28

Drying Costs Are Lower

ARTLOOM CORP., Philadelphia, wanted better, faster, and more economical tenter-drying of its automobile and other upholstery pile fabrics. The result of its investigation of possibilities was installation of what is said to be one of the three largest tenter-dryers, in point of capacity, in use in the United States.

Large tenter-dryer in use in pile-fabric plant of Artloom Corp.

The machine, which has been installed about two years, improves quality by drying the cloth evenly all the way across without any burning. In addition, it dries more quickly than the equipment formerly in use, resulting in a tightening of the back of pile fabrics; this, in turn, has a tendency to make the pile stand more erect. Operated at 15 yd. per min. and 220° F., the machine has cut in half the time consumed in this mill by the tentering and drying process. Executives of the mill believe that if it becomes desirable they can increase temperature still further and step up production considerably.

Briefly, the new equipment consists of a vacuum extractor and a seven-fan, twelve-pass tenter-dryer. It is operated by one man and a helper. The air baffles in the dryer are adjustable, and so arranged that the hot air can be driven and pulled through the fabric or blown across it, whichever method is best suited to the cloth in process. The heating system of the dryer is removed from the immediate region of the cloth, thus eliminating the possibility of marking due to direct heat radiation.

The new tenter-dryer was built by Philadelphia Drying Machinery Co.

The machine is driven by a 20-hp. G. E. motor, although it is stated that the same machine, when operated on many other types of fabric, would require only about 7½ hp. The extra power consumption in the present installation is due to the fact that the particular type of cloth being processed is given considerable end tension and width stretch. This is for the purpose of eliminating the possibility of stretch when the fabric is placed in use.

Variations in speed are made possible by use of a Reeves Pulley Co. adjustable-speed drive, which is actuated by remote control from the operator's platform.

29

Jersey Cloth Knit at 60-Yd. per Hr.

KNITTING OF JERSEY CLOTH in a wide range of striping patterns at the rate of 60 yd. per hr. has been made possible at Arcadia Knitting Mills, Allentown, Pa., by installation of new 24-in., 64-feed machines. The mill has found that the high production of these machines more than counterbalances the increased operating cost per machine, thus resulting in a net saving in production costs. Since all feeds on the machine remain in action at all times, the "bad edge" found in jersey cloth knit on some types of machines is eliminated. Other advantages noted by the mill are less machine stoppages and less needle breakage than were formerly encountered.

For knitting narrower fabrics in a wide striping range, the mill has installed 18-in. 48-feed and 12-in., 32-feed machines. Due to their smaller diameters, these machines operate at a higher speed, and hence are able to maintain the production rate set by the 64-feed machines. Both the 64-feeders and the smaller machines were purchased from Supreme Knitting Machine Co.

30

System Provides 60-Cycle Power

OCCASIONALLY, long-established mills which have grown by building additions to an original plant, suffer from complicated power-transmission systems. Such was the situation at the Riverside & Dan River Cotton Mills, Danville, Va. The Dan River Division of this company has an annual power requirement of over 70 million kw.-hr. with a normal load of about 16,000 kw. Power was originally generated in 1903 at 25 cycles at a hydro-electric plant owned by the company, and supplemented in 1908 with additional power, at the same frequency, by steam. In 1917, 60-cycle generators were installed to provide village lighting. In 1933, a tie-in was made with the Riverside Division of the company using 60 cycles, and at the same time the mill contracted to buy power at 60 cycles from the Appalachian Power Co. The mill now adopted the policy of changing the entire plant from 25 cycles to 60 cycles.

The mill required that the following conditions be met: (1) to make 60-cycle power immediately available throughout the mills; (2) to provide good voltage conditions at all times; (3) to give high flexibility for developing the entire system by orderly and successive stages; (4) to insure high continuity of service; (5) to limit short circuits to safe values not exceeding 40,000 amperes; and (6) to provide minimum year-around losses.

The system adopted comprises 6,600-volt primary radial distribution to transformer stations, strategically located with reference to the load cen-

ters and having 600-volt secondaries from the transformers, paralleled through a sectionalized ring-tie line skirting the property.

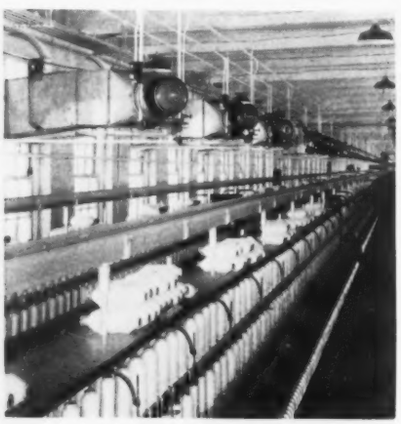
The 600-volt ring-tie line has a total length of about 6,000 ft., which represents about the distance around the property. It has a capacity of 1,000 amperes sufficient to supply 2,000 kva. to any distribution station. This arrangement permits carrying of the entire load in emergency with one or two transformers out of service. With distribution sub-stations in close proximity to the loads, excellent voltage is always available. The system provides high flexibility, provision for additional capacity, excellent service availability with transformer losses minimized.

Walker Electrical Co. made the complete electrical installation and manufactured the metal boxes used. Equipment employed in the installation was furnished by the following manufacturers: 600-volt ring tie cable, Anaconda Wire & Cable Co.; 6.6 kv. cable, control cable, 6.6 kv. switch-gear and 600-volt branch feeder breakers, General Electric Co.; 600-volt switchboards, I-T-E Circuit Breaker Co.; transformers, Westinghouse Electric & Mfg. Co., General Electric Co., and Allis-Chalmers Mfg. Co.; bus insulators and fittings, Anaconda Wire & Cable Co., Electric Power Equipment Co., and Delta Star Electric Co. The ring-tie system was installed under the direction of Lockwood Greene Engineers, Inc.

31

Conditions Air in Spinning Room

CONTROLLED VENTILATION, humidification, heating, cooling, and minimum overhead obstruction are among the advantages obtained by installation of modern air-conditioning equipment in the spinning room of Erwin Cotton Mills, Durham, N. C. This installation consists of Bahnson Co. ductless air-conditioning equipment and Bahnson Master humidity control. One of the features of the ductless type of equipment is that the units can be installed individually as specific needs are indicated. As a result of the benefits obtained by this installation, Erwin Cotton Mills is installing similar equipment in its plant at Cooleemee, N. C., as a specific phase of a modernization program now under way.



Spinning room at Erwin Cotton Mills is air-conditioned with ductless type of equipment

32

Ventilators Resist Corrosion

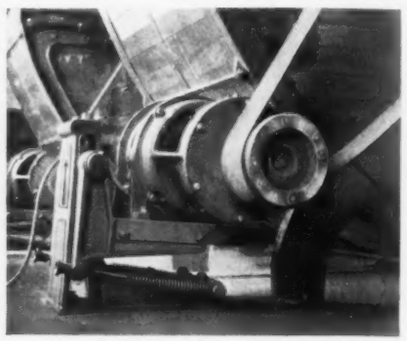
GALVANIZED-IRON ventilators on the roof of the dyehouse at Summerdale Dyeing & Finishing Works, Inc., Philadelphia, were corroded badly by the fumes of acetic acid, dilute sulphuric acid, ammonia, and other chemicals rising from the dyeing machines. Accordingly, ventilators of 22-gage Monel metal were installed. After several months of service, the new ventilators appear to be unaffected by the corrosive fumes, and the management of the company is well pleased by their performance as compared to the service rendered by ventilators made of materials which are less durable and more susceptible to corrosion.

Corrosion-resisting ventilator installed by Summerdale Dyeing & Finishing Works

33

Solves Difficult Drive Problem

THE DIFFICULT PROBLEM of driving fulling mills with a belt angle of 45° was solved at Glenn Woolen Mills, Norwich, Conn., by installing a pivoted-motor vertical drive under the frame of the machine. With this drive, fulling-mill output has been materially increased and the work is better. One of these drives, consisting of a Westinghouse single-reduction gearmotor and Rockwood pivoted-motor base, has been applied to each of three Hunter fulling mills in the plant.



Pivoted-motor vertical drive applied to fulling mill at Glenn Woolen Mills

34

Spends $250,000 to Modernize

"A POLICY of quality, regardless of how sincerely set, can only be attained on modern equipment." This thinking on the part of the management of Claussner Hosiery Co., Paducah, Ky., is reflected in a modernization program started about a year ago and extending throughout every department of the company's three plants. The work, which was confined to modernization of equipment, and did not include any new buildings, represented a cost of about $250,000.

Equipment installed includes new skein winders, throwing machines, knitting machines, loopers, boarding machines, examining forms, and packing equipment. Thus, in the knitting department fourteen of the latest type of Reading full-fashioned hosiery machines were installed; the older machines were sold or junked; all other knitting machines were reconditioned,

Cleaning and distributing equipment at Revolution Mills

modernized, and put in A-1 condition. In the throwing department installation of new Monarch twisters makes for greater uniformity of twist. The skilled operators in the looping department were aided by new Sotco loopers, which are gaged or pointed specially for each Claussner style. Every pair of hosiery is examined on the latest type of Reading expanding inspection forms designed to place the strain on the hosiery in the same manner as occurs during actual wear.

35

Lap Variation Is Negligible

AT REVOLUTION MILLS, Greensboro, N. C., new equipment has been installed in the opening and picking department and all old machinery has been taken out. The old opening room has been abandoned and is now used as a warehouse. The entire opening, blending, and cleaning equipment has been placed in the space formerly occupied by the old pickers.

Loss of laps on account of variations is negligible, although the allowable tolerance is only ¼ lb. above or below the standard. Yard-to-yard variation is consistently held to ½ oz. maximum, and the amount of heavy impurity removed has been doubled. Additional advantages are a high degree of cleanliness and the absence of fine, peppery leaf and small impurities.

With the new system, the basic mix contains 100 bales of cotton laid down in front of 12 Saco-Lowell F5 feeders. These feeders are arranged in groups of four, each group being provided with its separate mixing feed table. From the feed table, the cotton passes through a condenser, which places the stock on the feed apron of the No. 12 lattice opener. In range with this opener, there is a Saco-Lowell vertical followed by a second No. 12 lattice opener, with a No. 3 screen section feed and cone-mouth delivery. Next, the cotton is taken through a cone-mouth intake to an automatically controlled distributing system serving four Model C4 single-process pickers with blending reserves. Each cleaning unit is placed directly behind the pickers.

Segregation of the opening and picking equipment into these compact units results in flexibility of operation. In addition, the automatic control becomes highly effective, and operating efficiency is increased. Inconvenience due to shutting down a single line or group is without effect on the remaining equipment.

36

Printing Machine Illumination

RECENTLY a new method of illumination for printing machines has been installed in the Pacific Mills Print Works, Lawrence, Mass. The illumination is eminently satisfactory, not only from the standpoint of high illumination intensity, but from the quality of light. The installation was made under the direction of Capt. H. D. Learnard, plant engineer.

Each printing machine is illuminated with one triple, 40-watt, 48-in. Type FJC fluorescent unit directly in front of the machine at a distance of approximately 4 ft.; and one double, 30-watt, 36-in. Type FJC fluorescent daylight unit directly over the machine, illuminating the printed cloth as it leaves the machine. Reflectors are of the polished-aluminum concentrating type, and tubes are balanced on 3 phases of a 220-volt system. The illumination at the cloth varies from 40 foot-candles on the selvages to 45 foot-candles at the center.

One advantage of the new method is freedom from glare, due to the fact that the source of illumination is spread over a large area, rather than concentrated in the usual filament. The daylight tube provides a light particularly well adapted for color matching, and a printer is able not only to match colors much better than with any previous artificial light, but is able to distinguish the degree of registration, or fit, of the pattern to better advantage. The light from the fluorescent tube is of such a character that it is easy to distinguish the shades of a color between one side of the cloth and the other, which is of much importance in textile printing.

It is quite important to balance the light on 3 phases where the problem is the illumination of patterns having a continual repeat, as is customary in textile printing. With single-phase connection, there is a stroboscopic effect, and a tendency to illuminate a pattern so that its true speed and position are distorted, but with care this can be easily overcome.

The power consumption and economy of the fluorescent tube are well known; and on new jobs where wiring and transformers are to be installed, there will be a considerable saving in installation expense, as well as operating expense.

37

Installation is Self-Liquidating

LOCKWOOD CO., Waterville, Me., manufacturer of sheetings, has recently completed the installation of a 4,000-kilowatt, 400-boiler-horsepower electric steam generator or boiler. This capacity is sufficient to supply the steam required for manufacturing purposes and also for heating the entire plant, except in extreme weather. Held in reserve are two

300-boiler-horsepower horizontal-return-tubular, hand-fired boilers, which previously supplied the plant with steam.

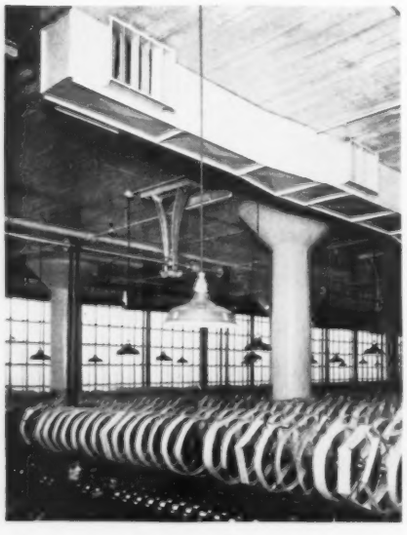
The new boiler is of the immersed-bare-electrode type, and is supplied with surplus hydro-electric power at 4,000 volts, 60 cycles, 3 phase. This power would have otherwise been wasted, as, for the present at least, there is no market for it. The boiler was made by Bigelow Co., and the electrode equipment by the General Electric Co. There is also an Elliott deaerating heater arranged for supplying boiler feed water at variable and controllable temperatures between the limits corresponding to 5 and 25 lb. gage pressure. The new electric boiler is located in the old boiler room and is arranged for parallel operation with the older units at 75 lb. gage pressure.

When the hydro-electric power is ample for steam needs within the capacity of the new boiler, the control of the latter will be automatic and accomplished in the boiler room on steam pressure. At times of deficient hydro-electric power, however, or in extreme winter weather when additional boiler capacity is needed, one of the older hand-fired boilers is started up, and the new electric boiler is operated in parallel with it—electric input being controlled by hand at the hydro-electric plant 450 ft. distant.

Whether the control is automatic as in the first case, or manual as in the second, it is accomplished through varying depth of electrode immersion, by a motor-operated valve in the feed-water line, so as to produce the desired kilowatts or amperes.

Incidentally, this type of boiler is inherently free from danger of explosion due to low water. That is, the electrodes extend into the water from the top, and the generation of steam ceases as soon as the electrodes become uncovered by falling water level.

This installation will pay for itself in fuel and labor saving in twelve months' operation, unless the stream flow averages extremely low and, in any event, should be self-liquidating within the second year of its operation. The installation was engineered by F. P. Sheldon & Son.



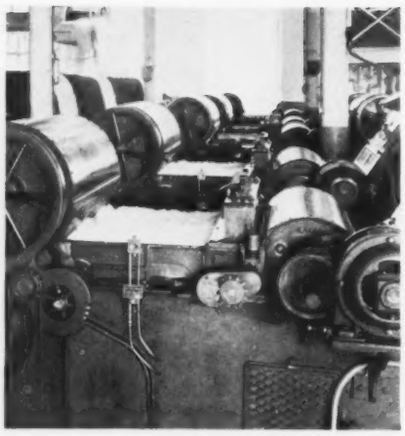
One of several air-conditioned departments in plant of Oscar Heineman Corp.

38

Believes in Air-Conditioning

IN 1918, Oscar Heineman Corp., Chicago, made its first installation of air-conditioning equipment. Subsequently it has made five additional installations, the latest in 1938. Rooms which are now air-conditioned include the reeling, winding, spooling, twisting, dyeing, drying, and coning departments. Air conditioning in this plant has resulted in greater uniformity of product, correct moisture content in finished materials, and lower temperatures with the required relative humidity. The last-mentioned benefit is particularly desirable from the viewpoint of comfort of employees.

Carrier Corp. central-station equipment is used throughout, most stations being zone controlled because of the heat produced by the motors in the mill. Due to increased production, the equipment installed prior to 1938 was no longer able to carry the load of all four floors of the plant, its full capacity being required to serve the first and second floors. Accordingly, two complete central stations were added for conditioning the third and fourth floors of the plant.



Pickers at Lydia Cotton Mills have been fitted with recently improved fiber-conditioning equipment

39

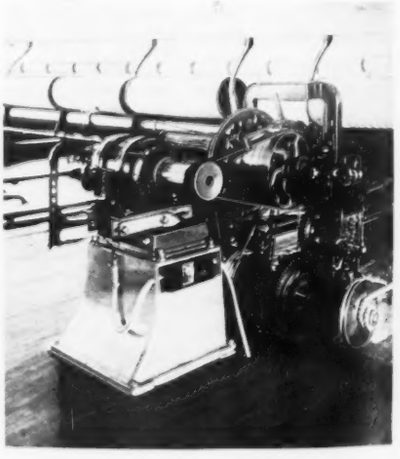
Eliminates Static, Reduces Fly

IN THE LAST SEVERAL YEARS the practice of conditioning of cotton in the picker room has rapidly grown in favor. Considerable research has been carried out in connection with the development of suitable conditioning compounds and mechanical means for applying them uniformly to the fiber. At Lydia Cotton Mills, Clinton, N. C., fiber conditioning is effected at the pickers by means of Texspray Compound applied with a recently improved type of equipment developed by the Texas Co. P. S. Bailey, vice-president of Lydia Cotton Mills, states: "We find that this system gives us healthier working conditions, that static is eliminated, and that fly and dust are reduced, and we have a cleaner mill. We estimate that cleaning expense has been reduced 30%."

40

Mule Output Increased 16%

ACCORDING TO THE SUPERINTENDENT of Ware Woolen Mills, Ware, Mass., installation of a Rockwood Mfg. Co. pivoted-motor drive on its mules gave twelve definite advantages over the customary line-shaft and belting. These are: less spring on shipper arm and back lever, shifting of belt is easier, more uniform speed, mule strike is evener, mule drawn is faster, power off at doffing, power off in event machine breaks down or is not in opera-



Pivoted motor drive to mule at Ware Woolen Mills

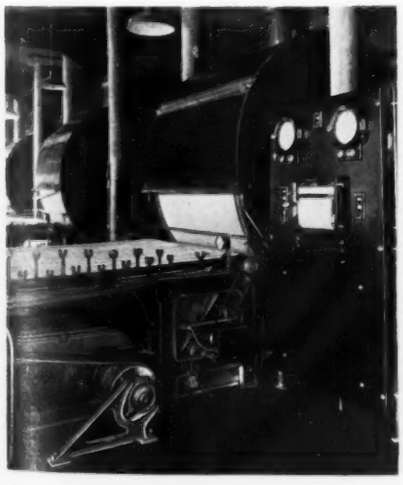
tion, less danger to operator, no damage to material from oil drippage, less power consumed—ten 3-hp. motors do work formerly done by 35-hp. motor, 5 to 7% less slippage, and 16% increase in production or output from machine. The illustration shows the pivoted-motor drive on a special mounting designed by the mill.

41

20% Increase in Production

CONTROL OF AMOUNT of moisture in sized cotton yarns leaving the slasher is a problem which has received considerable attention in the last few years. Recently several mills have installed moisture-content control systems similar to the one at Pepperell Mfg. Co., Biddeford, Me. The control system at Pepperell consists of a Brown Instrument Co. Moist-O-Graph in conjunction with a Reeves Pulley Co., No. 2-E, horizontal, inclosed variable-speed transmission. This control is based on the principle that, for every per cent of regain, yarn has a corresponding value of electrical resistance.

A cable connects the Moist-O-Graph to a speed-changing pilot motor mounted on a Reeves transmission, and the pilot motor is connected by a lever to the valve of a Reeves hydraulic automatic control. The per cent regain desired (ranging from 4 to 12%) is set by adjusting a visible index on the Moist-O-Graph scale. When the actual moisture content of the yarn either exceeds or falls below the desired value, the automatic control speeds up or slows down the transmission, which is connected to the main drive shaft of the slasher. The motor driving the transmission also serves as the slasher drive motor. Thus, the desired regain is automatically maintained and is held within plus or minus ½ of 1% of the desired value.

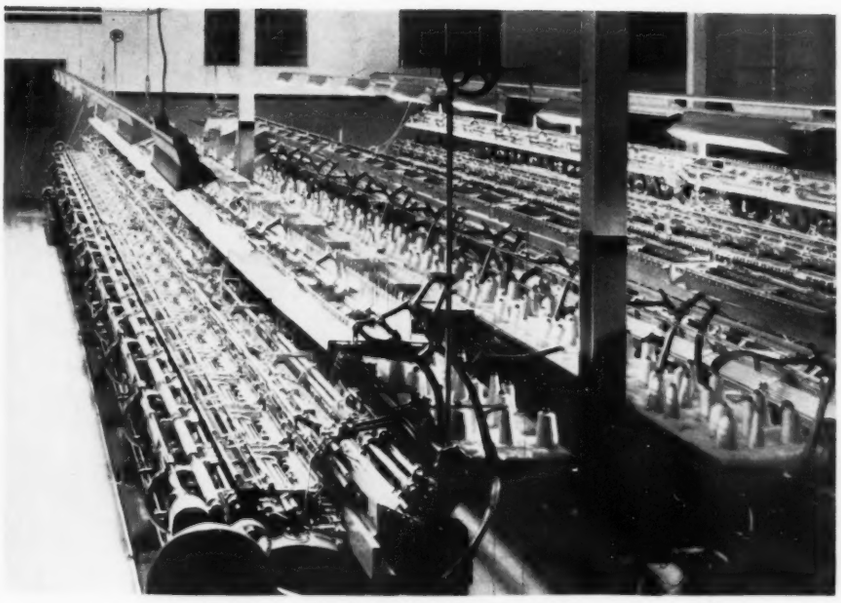


Cotton slasher at Pepperell Mfg. Co. equipped with moisture-content control actuating variable-speed drive

In addition to the fact that the system insures uniform moisture content of the sized yarn, it makes possible noteworthy production increases, because the operators need not run their slashers at the low speeds which they formerly employed merely to guard against wet warps and the consequent hazard of mildew.

At the Brandon Corp., Greenville, S. C., a Moist-O-Graph was installed about 2½ yr. ago. Since that time the mill and the manufacturer of the instrument have cooperated on improving the device and bringing it nearer to perfection. At this mill the regain of warps can be maintained within ±½%. Also, the unreliable "feel" method of determining proper moisture content is obviated.

At the Lanett, Ala., plant of West Point Mfg. Co., slasher speeds have been increased 20% by installation of the Moist-O-Graph, and the running qualities of the warp have been improved.



Fluorescent lighting is a feature of the knitting room at Huffman Full-Fashioned Mills, Inc.

42

Soft Light Minimizes Glare

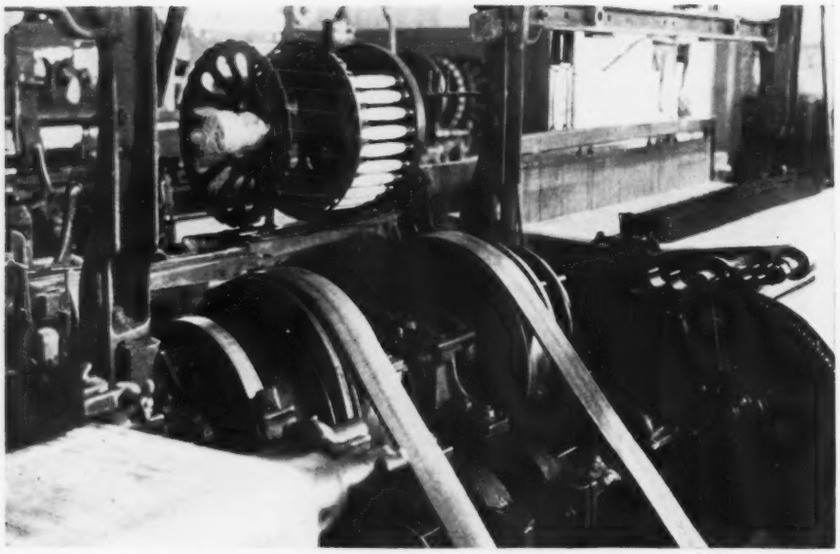
FLUORESCENT LIGHTING was specified by the Huffman Full-Fashioned Mills, Inc., Morganton, N. C., for the reason that unusual softness and minimized glare from this type of lighting made possible higher intensities on the work, with almost total elimination of reflected glare or harsh shadows which might interfere with operatives' vision. In the seaming department, the mill uses 36-in., 30-watt-lamp units arranged end-to-end and located 41 in. above the top of sewing tables. This provides an average intensity of 40 foot-candles at the machine. In the hosiery knitting department, fixtures are also installed 41 in. above needle points, and provide approximately 40 foot-candles of general illumination.

The fluorescent fixtures used were manufactured by Benjamin Electric Mfg. Co. With these units, one-quarter less radiant heat is generated per foot-candle than would be the case with ordinary incandescent lamps. This was of considerable importance in the Huffman mill, since it is entirely air conditioned.

43

$15,000 Annual Saving

THE MANAGEMENT of Swift Mfg. Co., Columbus, Ga., has always been alert to modernization. One of the most recent improvements was the modernization of the dyehouse, which started in the fall of 1938. The first step in this program was the replacement of all old-style, raw-stock dyeing machines with six 1,000-lb. Morton improved double circulating dyeing machines. This improvement was followed by the installa-



Looms at Abbeville Cotton Mills equipped with clutch-flywheel pulley drive

tion of three squeeze-roll extractors which replaced six centrifugal hydro-extractors. Then two new 40-ft. raw-stock dryers were added to replace an old 100-ft. dryer. It is interesting to note that while the drying capacity of the plant has been doubled, there has been a saving effected in floor space.

Three blowing systems—each consisting of a sheet-metal hopper, a No. 5 Sturtevant fan, together with necessary piping, and a special collector at the dryer—convey the cotton directly from the three squeezers located on the first floor to the dryers on the second floor.

Each squeeze-roll unit has a capacity of 1,000 lb. of stock, dry basis, and consists of a pair of hydraulically controlled rubber-covered squeeze rolls 48 in. long running in roller bearings, and driven by a 7½-hp. motor through silent-chain drive. Connected to the squeeze rolls is a Hunter rotary feeder, which effectively tears up large lumps of wet cotton into small flakes to be delivered to the squeeze rolls. The feeder is equipped with a variable-speed drive to provide easy adjustment of the quantity of cotton that is delivered by the feeder, thereby permitting the feeder and squeeze rolls to be synchronized with the drying speed of the dryers.

Each new dryer has seven sections and a drying capacity of 1,000 lb. per hr. of dried stock. The dryers are provided with rotary feeders and automatic temperature control equipment, and two circulating fans are in each section.

From the dryers the cotton is blown some 400 ft. through pipe lines to double-box hydraulic baling presses located in a new building adjoining the cotton storage warehouses. It will be noted that the cotton, after being put into the feeder of the squeeze rolls, is not touched by hand again until it comes out of the baling presses to be taken to the storehouse.

In addition to providing more production and improving quality, the modernization has made possible the elimination of sixteen operatives, effecting an annual saving of $15,000 in wages, steam, maintenance, and other operating expenses.

The rotary feeders, hydraulic squeeze rolls, and the dryers were furnished by James Hunter Machine Co.; baling presses, by Lummus Gin Co., and the blowing systems by Russell Sheet Metal Co. The program was carried out under the direction of Robert & Co., Inc.

44

Boosts Rayon Fabric Production

IN AN ATTEMPT to increase production, the management at Abbeville (S. C.) Cotton Mills began two years ago to experiment with Energy drives for looms. This mill is engaged in the manufacture of spun-rayon and continuous-filament rayon fabrics. These are woven on 40-in. Draper E Model cam looms, the greater part of which are belt driven from shafting mounted beneath the weave shed floor. These looms were formerly operated at 150 picks per minute, that being the highest practical speed of operation for uniformly high-quality fabrics of the constructions woven at this mill.

Tests revealed that this clutch-flywheel pulley drive when substituted for the conventional tight-and-loose pulley drive caused the looms to run more smoothly. A section of looms was equipped with Energy drives and speeds were raised from 150 to 160 picks per min. It was observed that the machines operated as smoothly at this increased speed as they had formerly at the lower speed. Production was increased proportionately. Accordingly, over a period of 12 mos. all the belt-driven looms at Abbeville Mills, approximately 600 machines, were equipped with Energy drives. These looms are nearly evenly divided between two weave sheds—one of which produces the continuous-filament rayon fabrics; the other, the spun-rayon goods. Production of the weave shed has increased, quality of fabrics has been maintained, and output per weaver has been raised.

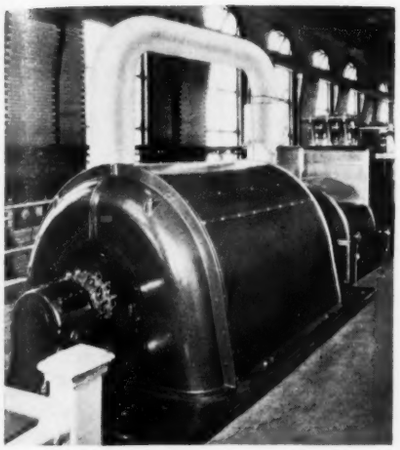
45

Mill Comfortable at 80° F.

RECENT AIR CONDITIONING of the Meridian (Miss.) Hosiery Mills is designed to provide a year-round temperature of 80° F. and a relative humidity of 60%. The management of the mill states that the plant is far more comfortable than before the air-conditioning system was installed, in spite of the fairly high temperature. Control of the temperature and moisture has reduced breakage and spoilage of yarn and aided production of a superior product. Chief equipment includes a giant fan, powered by a 40-hp. motor, an air washer, and a gas-fired boiler with 8,500 sq. ft. of equivalent direct radiation. The ductwork and discharge outlets are so placed as to distribute the conditioned air uniformly to all parts of the mill and to avoid drafts which would disturb the fine silk yarn running over the machines. The knitting machines are approximately 50 ft. long and are arranged in three rows. An air duct is run along the ceiling just over each row of machines. The outlets are placed every 10 ft. on each side of the ducts. The operating part of the building is windowless, and excess air is exhausted through self-closing aluminum shutters.

The air-conditioning contractor was Crawford, Inc. Equipment was supplied by the following companies: fan, air washer, and vault humidifier, National Fan & Blower Co.; fan motor and water pumps, Allis-Chalmers Mfg. Co.; condensate-return pump, Economy Pumping Machinery Co.; gas-fired boiler, Fitzgibbons Boiler Co.; temperature and humidity controls, Minneapolis-Honeywell Regulator Co.

—GEORGE H. WATSON



Non-condensing turbine generates large amount of power with small loss of heat in steam

46

Gives 14% Saving in Fuel

A $400.000 POWER-PLANT improvement that will pay for itself in four years has been made recently at Arlington Mills, Lawrence, Mass. In 1936, Franklin W. Hobbs, president, commissioned Chas. T. Main, Inc., to make a detailed study of the power plant to determine what, if any, further economies could be effected. Installation of a new topping plant was the result.

The major pieces of equipment in this installation are a Babcock & Wilcox boiler equipped with Bailey automatic combustion-control system, and a General Electric turbine. The new 650-lb. boiler, which is fired by pulverized coal and is equipped with an air preheater and economizer, can deliver 125.000 lb. of steam per hour. Correct steam pressure, fuel supply, induced draft, forced draft, etc., are maintained by the combustion-control system, which has indicating and recording instruments to show steam flow from the boiler, steam pressure, temperature of air and gases, temperature of superheated steam, and other conditions. The 3-000-kw., 600-volt, 60-cycle, non-condensing turbine, exhausts at 195-lb. pressure into the high-pressure mains of the old boilers.

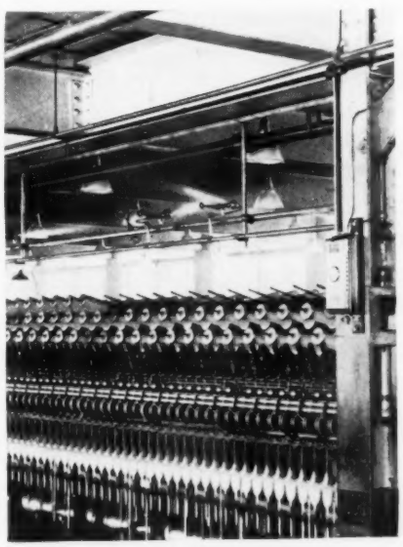
In parallel with the turbine is a reducing valve and desuperheater equipment furnished by Republic Flow Meters Co. and consisting of a Smoot reducing valve and desuperheater with a Taylor Fulscope control. With this arrangement, it is possible at times, when the whole capacity of the turbine is not used, to bypass the new turbine and still operate the new boiler.

At average load the new high-pressure boiler has an efficiency of 85 to 86%, as compared with 73% for the two old boilers which it replaced, and gives a 14% saving in fuel plus the ability to burn lower-cost coal. Loss of heat in condensing water has been practically eliminated.

47

Close Control of Room Conditions

ADEQUATE HUMIDITY automatically controlled is recognized by the management of Wyandotte Worsted Co. as a requisite to efficient production. Accordingly, after taking over the Star Worsted Co., Fitchburg, Mass., this year, one of the first installations made by the company was a complete humidifier system. This was purchased from Parks-Cramer Co. As shown in the accompanying illustration, a Parks Hygrostat (on post in foreground) controls the Parks Turbomatic self-cleaning humidifiers and results in unusually close control of room conditions and regain.



When Wyandotte Worsted Co. took over the Star Worsted Co., one of the first steps in modernizing the plant was installation of a complete humidifying system

48

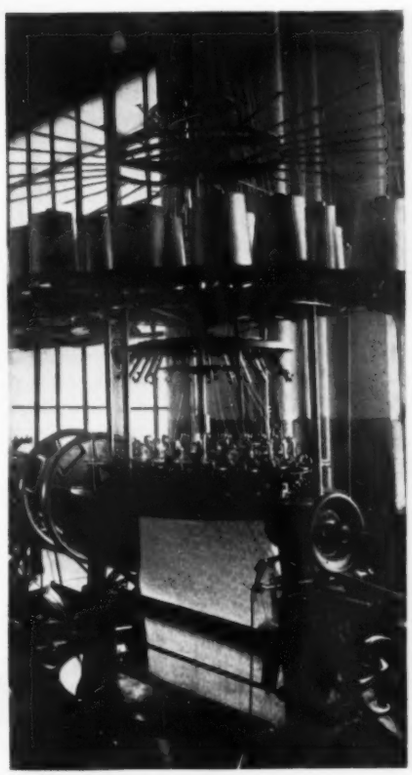
Refinishing of Rolls Unnecessary

RECENTLY A NEW TYPE of rolls for rayon warp sizing machines has been adopted by Dunean Mills, Greenville, S.C. These rolls are corrosion-resistant, smooth, tough, and durable. As a result, they do not require frequent refinishing as was necessary with the type of rolls formerly used. Another advantage is that no verdigris is formed with these rolls. The rolls are 9 in. outside diameter and 58 in. long, covered with 16-gage Monel metal sheet by means of welding. They were fabricated by Youngstown Welding & Engineering Co.

49

Knits Wide Range of Fabrics

TO DIVERSIFY ITS LINES of knitted rayon fabrics, Feiner Fabrics, Inc., New York, has recently installed a number of 18-in., 24-feed loop-cloth machines. The machines are capable of producing various types of cloth ranging from 6-oz. lingerie to 16-oz. suede-finish pile fabric. Knitting of this complete range entails no change of equipment. These machines, which are manufactured by Supreme Knitting Machine Co., are of the pattern-wheel type and produce from 25 to 35 lb. of fabric per hour, depending upon the type of cloth. This high rate of production has resulted in a lowering of



Knitting machines installed by Feiner Fabrics, Inc. produce diversified line of fabrics

costs. In addition, there has been less needle breakage, quality of fabrics has been improved, and fewer defects have been encountered.

A short time after the machines were installed, the mill decided to add to its regular line a range of bathing-suit fabrics composed of rubber, rayon, and cotton. By making a few changes in the equipment, which required only a few hours' work, Feiner Fabrics was able to produce the new type of bathing-suit fabric on these 24-feed loop-cloth machines.

50

Looms Operate at 182 Picks

A MODERNIZATION PROGRAM which has been continuous over a long period at Dwight Mfg. Co., Alabama City, Ala., was designed to improve the quality of the product, as well as to increase the production per man-hour. One of the most recent steps in the program was the replacement of old looms with new high-speed 40-in. X-Model Draper looms, 24-in. beams, 2, 3, 4, and 5 harnesses. These looms are operating at 182 picks per min. The looms are provided with Steel Heddle Mfg. Co.'s reeds and harness, Denman pickers, Rhode Island stop motion, Veeder-Root pick counters, and a yardage counter developed and manufactured in the mill's own machine shop. Looms are driven by Westinghouse geared motors through a cork friction clutch. The finished product, of which there are some 65 different constructions, is given a careful inspection in the cloth room.

51

Facilitates Color Changes

"WE ARE ABLE to go from one color to another, no matter how dark or light the shade may be, without any loss of time." Thus does P. E. Morris president of H. F. Morris Co., Manayunk, Philadelphia, Pa., describe one of the chief advantages his company obtains through operation of three new stock-dyeing machines installed about two years ago in its carpet-yarn spinning plant. To accommodate this installation a new dyehouse was constructed and the machines were arranged so that the stock could be fed into them from an overhead chute,

Loading stainless-steel raw-stock dyeing machine in plant of H. F. Morris Co.

thereby eliminating considerable labor as regards loading.

With the wooden tubs formerly used, there was anywhere from 30 to 60 min. of lost time each time a tub had to be boiled out. Under present conditions, only about 10 min. is required for hosing out machines between colors, and loading effort is reduced to a minimum. The dyeing machines were made by Franklin Process Co. They are of stainless steel throughout, and have a capacity of approximately 750 lb. each.

At the time of installing new dyeing equipment the mill also brought up-to-date the machines used in preceding and subsequent processing. A three-bowl scouring set and a raw-stock dryer of 1,000 lb. per hr. capacity were installed for cleaning the wool prior to dyeing it.

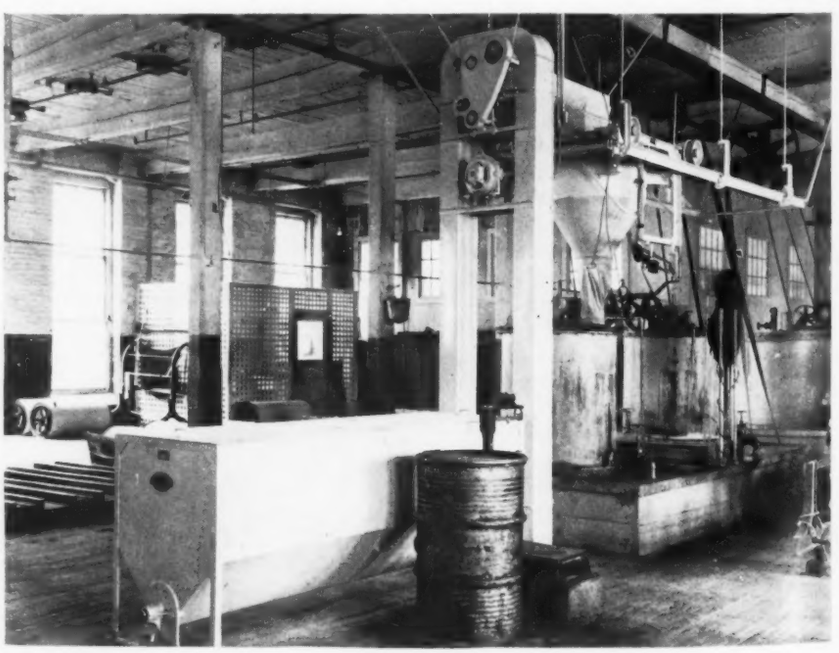
Unloading after dyeing is easily accomplished by means of an overhead hoist and trolley system installed by Cleveland Tramrail Division of Cleveland Crane & Engineering Co. The lid is first hoisted off the machine, then the stock is carried, without removal from the dyeing-machine basket, directly to the hopper which feeds the rinsing and drying equipment. This hopper is flush with the floor so that the material can be dropped directly into the hopper, or on the floor nearby, and easily fed into the hopper. The wool washer used for rinsing feeds directly to a dryer. On emerging from the dryer, the material is automatically blown to the mixing room.

Both the scouring set and its dryer, and the rinsing equipment and its dryer, were built by C. G. Sargent's Sons Corp.

52

Saves Starch, Eliminates Errors

A CLEANER SLASHER room and more uniformly slashed warps are two outstanding results which the No. 3 plant of Jackson Mills, High Shoals, N. C., has achieved since installation of an automatic starch-weighing-conveying system. The system consists essentially of a large starch storage bin, a bucket-



Automatic starch-weighing-conveying system in No. 3 plant of Jackson Mills

type elevator, and a movable weighing bin suspended from a track running above the various kettles. It replaces the old system of dipping up starch in a bucket.

In operation, a day's or week's supply of starch is first put into the metal storage bin. This bin has at its bottom a screw conveyor which, when the electric current is turned on, propels the starch forward as needed. From the worm the starch is delivered to a self-emptying bucket elevator which raises the material several feet into the air. Here it is deposited in another trough which, like the one at the bottom, is equipped with a screw conveyor. This conveyor transports the starch to a movable bin which has been placed over the kettle it is desired to fill.

The bin incorporates a weighing and a knock-off device. As soon as a predetermined quantity of starch has been conveyed to the bin, the knock-off device stops operation of the entire machine. Now, all that remains is for the slasher tender to open the bin's canvas bottom and allow the starch to drop into the kettle.

By saving the slasher tender's time, and assuring that exactly the correct amount of starch is deposited in each kettle, the automatic starch control saves an estimated 2 lb. of starch for every kettle filled and allows the operator more time to devote to his slashers. The system is manufactured by Champion Machinery Co., and marketed by Carolina Specialty Co.

53

Spends $340,000 on Modernization

AN EXTENSIVE MODERNIZATION program, calling for the expenditure of approximately $340,000, was completed this year by Jennings Cotton Mills, Inc., and Mansfield Mills, Inc., both of Lumberton, N. C., and both under the same management. Machinery was rearranged to give continuous flow of goods in process from one end of the mill to the other, and a variety of new equipment was installed.

Both picker rooms were equipped with Saco-Lowell one-process pickers with blending reserves. Long-draft roving equipment was installed at Jennings, and at Mansfield the roving frames were rebuilt and modernized. Approximately 38,000 spindles of Saco-Lowell long-draft spinning were installed in the two spinning rooms, together with the Parks-Cramer system of overhead cleaning. Barber-Colman high-speed spoolers and warpers were installed; slashers have been equipped with Textile Shop exhaust systems; and a Curtis & Marble shear of latest model has been added to the cloth room.

In reference to the results obtained from the modernization work, D. Wills Hunter, executive vice-president of the two mills, states: "Costs have naturally been lowered and production and quality improved."

—S. W. Kluttz

54

Hose Inspection Improved

RATHER UNUSUAL are the tables installed by Real Silk Hosiery Mills, Indianapolis, Ind., for the inspection of silk hosiery. The table tops are made of Formica (Bakelite laminated) and are rendered more useful by scales inlaid in the surface sheet at the time of fabricating. The scales facilitate quick and accurate measurement. The

Hosiery inspection tables in Real Silk Hosiery Mills have inlaid scales

table tops are smooth and flat, with no sharp corners or surfaces than can do injury to the product. In addition, they contribute to speed in inspecting.

55

Winder Output Up, Less Fatigue

CYNTHIA MILLS, East Boston, Mass., makes hand knitting and embroidery yarns and household twines. Winding is therefore an important part of its

Bottle-bobbin production is considerably increased at Cynthia Mills by use of new winding machine

business. Two interesting installations of new equipment have been made recently. One of these is a 15-spindle Jumbo bottle-bobbin winding machine. Concerning results achieved from the installation the mill's management states, "With the same number of spindles, a considerably higher output is obtained than with our previous winders. This results from a higher spindle speed made possible by better design and an improved method of supporting the top of the bobbin."

The other installation made recently at Cynthia Mills is of self-contained, individually driven reeling equipment. In reference to this equipment the mill management states, "In our case one operator with ten spindles, divided into two units of five each, turns out 25% more work than with one 20-spindle unit. In the usual single-unit reel the operator is idle while the swift is in motion . . ." having the spindles divided into two units of course obviates this. However, "in spite of being continuously occupied, the operator is less tired at the end of the day, since there is no necessity of lifting the swift to remove the skeins at the completion of each set. Moreover, as all of the yarn supply is accessible from the front of the machine, considerable time is saved in renewing it. Other advantages are in the great saving in floor space, better control of in-

dividual weights because fewer skeins are wound at a time, and the possibility of winding two sizes of skein or two different kinds of yarn with one operator."

Both the bottle-bobbin winding machine and the individually driven skein-winding equipment were furnished by Fidelity Machine Co.

56

Dye Reels Do Not Chip

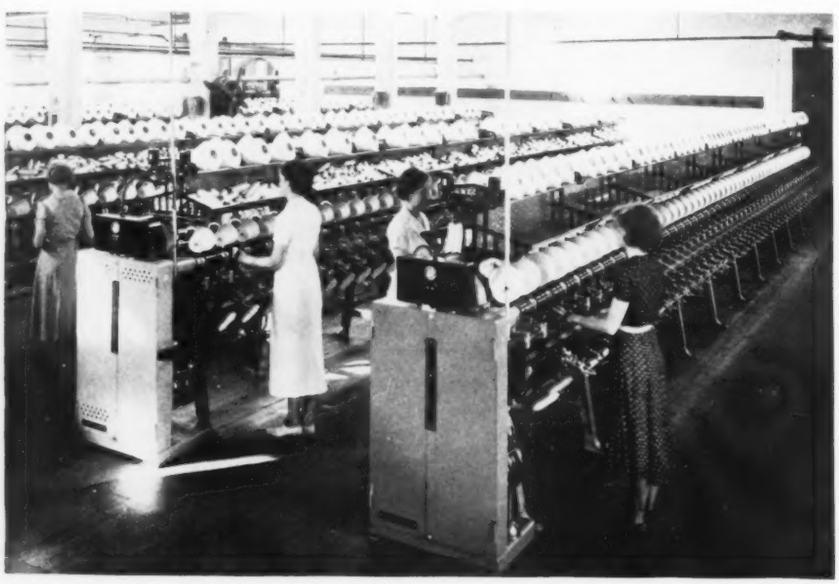
AT THE PLANT of Hoffner Silk Dyeing Co., Philadelphia, Monel metal reels have replaced the types formerly employed on a skein dyeing machine. The reels are corrosion-resistant and easy to clean. The chief advantage is that chipping and breakage have been eliminated. Some of the reels have been in use in this plant for 10 years and are as serviceable now as when installed. The reels were supplied by A.B.C. Welding Co.

57

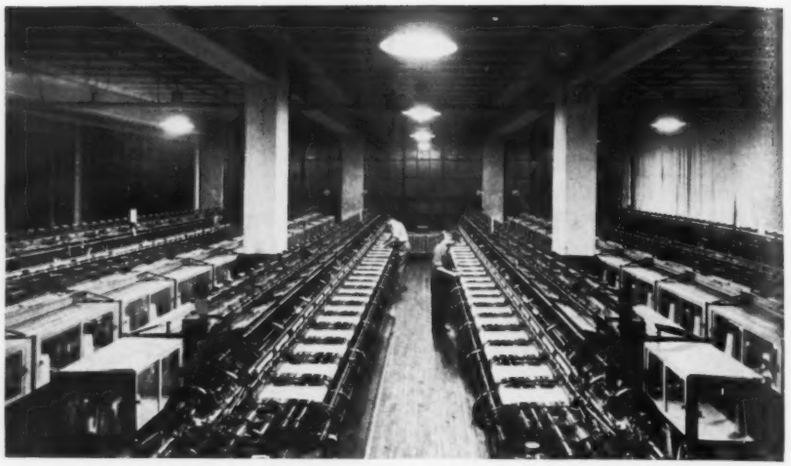
Reduces Costs, Increases Wages

LABOR COST for winding has been reduced over 12%, yet employees are able to earn from 10 to 20% higher weekly wages. This improvement has been brought about at Valdese (N. C.) Mfg. Co. by the replacing of thirteen old winders with nine new Universal No. 44 Roto-Coners. The new machines are built with either 40 or 50 spindles per side, and speeds vary from 450 yd. per min. on dye tubes to 550 yd. per min. on regular cones. Machine features include a double slub catcher which insures cleaner yarn, elimination of all reciprocating parts, and a rotating traverse with helical grooves which directs the yarn on the cone and eliminates roll-cut.

Packages are more uniform and can be made any density desired. The winder is so constructed that moving parts are at a minimum, and there is little wear even at high speeds. The net result is that operators are earning from $3 to a possible $6 per week more than it was possible for them to make with the old winders; production has been increased 30 to 50% a week; winding labor cost has been reduced $4,000 annually.



Modern cone-winding machines at Valdese Mfg. Co



New lighting units at Wayne Knitting Mills

58

Harsh Shadows Eliminated

NEW LIGHTING UNITS installed at Wayne Knitting Mills, Ft. Wayne, Ind., have improved working conditions by cutting out all harsh shadows. This is reflected in a noted increase in quality of production. Before the present lamps were installed, only 14 foot-candles were provided by 26 drop-cord fixtures. Now seven 250-watt combination high-intensity mercury-incandescent lighting units provide 20 foot-candles throughout the working area. These units, furnished by Westinghouse Electric & Mfg. Co., in addition to bettering working conditions and quality of production, have improved seeing conditions.

59

Good Engineering Cures Over-Load

GIVEN THE PROPER power equipment, a finishing plant can produce all of its power as a byproduct by its process steam. Nevertheless, there are many cases where purchased power can be used in a finishing plant to the mutual profit of the mill and the power company.

A case in point is the Webster, Mass., division of Cranston Print Works Co. Here, advanced management, after taking over an old plant, found ways to accomplish a major increase in machine speeds and production. The result was a badly over-loaded condition on the old engine generators.

Many troubles resulted, such as poor frequency regulation, low voltage, motor failures due to low voltage, and general disorganization of production schedules.

To install a small amount of additional capacity to run in conjunction with the old engines was unsound in the long run and neither was it sound to scrap the old engines, which still had considerable life, in favor of a complete new generating plant.

The solution recommended by Lockwood Greene Engineers, Inc., and adopted by the management, was to buy a small amount of purchased power. The engine generators are operated in synchronism with the power company. The load carried by each engine is either its safe capacity or the load which can be balanced with the demand for exhaust steam or warm condensing water. The remaining load is carried on the power company's system. About one-quarter of the total load is now carried on purchased power and the remainder on the engines.

The result of this power connection has been to steady the frequency and the voltage; to correct the difficulties with motors; to maintain better production schedules; and to enable the engine generators to be operated steadily at their most efficient point without any stress from overload.

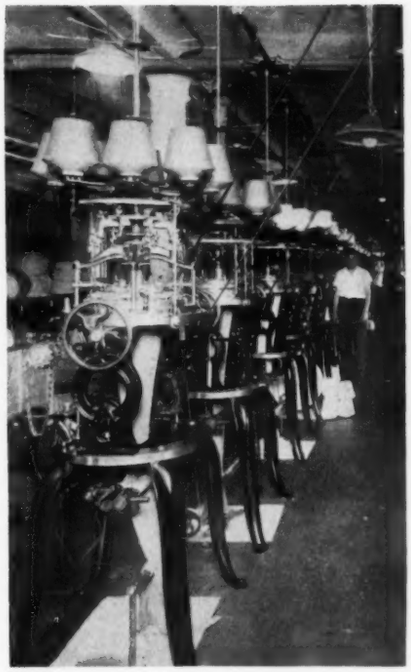
This desirable solution was possible only because the power rates in this case were sufficiently flexible to permit synchronism of generating units with the power system. Some power rates still make it impossible or prohibitively expensive to use purchased power to relay another source of power and such rates have the effect of shutting the power companies out of many opportunities to be of real service to industry, and at a profit to themselves.

60

Reduces Seconds, Increases Output

APEX KNITTED FABRICS, Inc., New York, has recently expanded its plant and installed a considerable amount of new equipment. Production has been diversified, so that now the company makes a complete line of underwear and sportswear for men, women, and children.

In the knitting department, there have been added four Scott & Williams ribbers for making men's and women's polo shirt fabrics, and twelve Scott & Williams small ribbers for making a



New ribbers for making underwear fabrics installed by Apex Knitted Fabrics

complete line of children's underwear fabrics. Also, three Supreme 48-feed jersey stripers and ten Wildman spring-needle underwear machines have been added.

Formerly the fabrics were sent to a commission finisher. Now, with two Joseph Pernick calendering machines, the mill does its own finishing and is able to give a better finish and better deliveries.

Binks blowers installed in the knitting department for blowing down the machines have reduced seconds by eliminating thread spots. American Moistening Co., humidifying equipment installed recently, according to Jack Turner, president of Apex, has reduced seconds 50% and increased production 10%. Two Monogram air compressors driven by Peerless motors are used—one for the humidifiers and one for the blowers.

An old boiler for furnishing steam to the machines when knitting rayon has been replaced by a Hamburg 8-hp. boiler with a Kres-Kno oil burner. Cost of operation of the new boiler is $48 per month, as compared with $150 per month for the old.

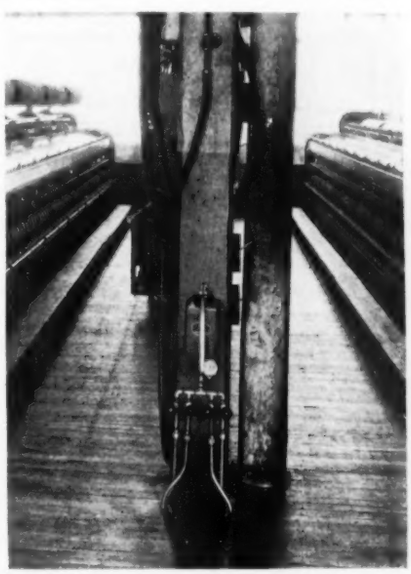
61

Spinning Frame Oiled in 1 Min.

OPERATING COSTS on a battery of sixteen Whitin woolen ring spinning frames at Kent Mfg. Co., Clifton Heights, Pa., were reduced through the installation of a centralized system of oil lubrication. Prior to the use of this lubricating system all bearings were lubricated by hand, which resulted in some bearings getting more oil than needed, some not enough, and occasionally some would be missed entirely.

With the Farval Corp. centralized system of lubrication now installed, a simple manually operated pumping unit delivers oil to a single supply line serving the positive piston displacement valves located at each bearing. Clean oil is delivered under high pressure to every bearing in exact measured amounts. The central pumping unit is mounted on a column, as shown in the illustration, to serve four spinning frames, with the delivery of oil to the frames controlled by a suitable gate valve in the supply line leading to each frame. All drive bearings on the head end of each frame, as well as the tape cylinder bearings are served from the centralized unit. In addition to the spinning frames, the shears and looms at this plant have been equipped with the Farval system.

Labor of oiling was reduced to a minimum because lubrication of a frame is accomplished in less than 1 min. Oil consumption was reduced approximately 75% because each bearing gets exactly the amount of oil required. Repair expense resulting from lack of lubrication was eliminated. Production was increased because it is not necessary to shut down to lubricate and also by avoiding all down time for any repair work caused by lack of oil. Cleanliness is assured through the



Woolen ring spinning frames at Kent Mfg. Co. are equipped with centralized system of oil lubrication; note central pumping system mounted on column

accurate control over the amount of oil delivered to each bearing, reducing the hazard of contamination when too much oil is applied. Proper lubrication also prolongs the life of equipment and reduces consumption of power.

62

Evens Out Hot Spots

IT HAS BEEN the experience of cotton mills that due to the location of machinery motors back-to-back in motor bays, the concentrated heat results in "hot spots." This added heat causes fluctuations in relative humidity amounting to as much as 15 to 20%, which affect spindle speeds, twist per inch, amount of fiber lost as fly, regain, evenness of yarn, ends down, belt tensions, and power consumption. In the twisting room of Rocky Mount (N. C.) Mills, these

Spotty humidity conditions in twister room at Rocky Mount Mills were eliminated by installation of supplementary air-conditioning system

"spotty" humidity conditions have been evened out by installation of B. F. Sturtevant Co. Vap-Air blender units. In addition, by increasing evaporative cooling effect, this equipment reduces the room temperature from 8 to 10° thereby making the occupants more comfortable and providing more healthful working conditions.

Each unit consists of a mixing chamber and a pressure fan, which are attached to a supply duct. The fan draws outside air, humidified room air, or both, into the mixing chamber and distributes it uniformly throughout the room by means of the supply duct. Automatic control provides constant regulation, adequate ventilation, and maximum cooling effect. The accompanying photograph shows a Vap-Air blender system installed at Rocky Mount Mills as part of a continuing modernization program. It comprises a series of units and supply ducts designed to supplement the existing humidification system so as to maintain a constant relative humidity and provide the desired degree of temperature reduction.

Up-to-date machines installed by Nolde & Horst for inspecting women's full-fashioned hosiery

63

Hidden Defects Exposed

FORMERLY INSPECTION of hosiery was carried out merely to see whether the stockings had any visible defects. With the demand for sheerer and sheerer hosiery, more thorough checking has become necessary. To meet this need, Nolde & Horst Co., Reading, Pa., recently installed inspecting forms which not only expose visible defects, but also test the fabric for bruised or weakened places, show whether the matching at the instep is satisfactory, and reveal hidden runner-making defects in the leg. These new Minimum Labor Model of expanding inspection machines, made by Edward R. Ammon, Inc., afford an efficient means for rigid quality control, while the mechanical features of the machines aid in keeping down the cost of inspection. Thus, form rotation and hand manipulation are avoided, with a corresponding saving in time and labor over older methods of inspecting. Again, after the stocking is inspected, the action of removing it from the form automatically turns it right side out, giving a further saving of time and labor. Another advantage is that when the stocking is laid down, a lever records up to 24, and then locks so that the inspector cannot get confused in her count.

64

Tenter Life Lengthened

BY INSTALLATION of insulating housing around its tenters and use of highly efficient heat exchangers and blower systems, Joseph Bancroft & Sons Co., Wilmington, Del., was able to increase tenter speeds and thus step up production. However, when the temperature in the inclosure was raised to 280°F., the hard maple tenter rails lasted only about six weeks. In an effort to reduce the maintenance charges, a special grade of Phenolite (Bakelite laminated) was developed by National Vulcanized Fibre Co. for use as tenter rails. The two most important characteristics of this special laminated stock are its ability to withstand high temperatures continuously with minimum deterioration and to withstand wear of the sliding tenter clips. One frame was equipped initially, and all others followed in five months. Use of this laminated stock permitted raising the tenter-house temperature from 280 to 350°F., with a proportional increase in cloth speed and production. In addition, maintenance on the frames has been reduced to a marked extent, as the original strips are still in service after more than four years.

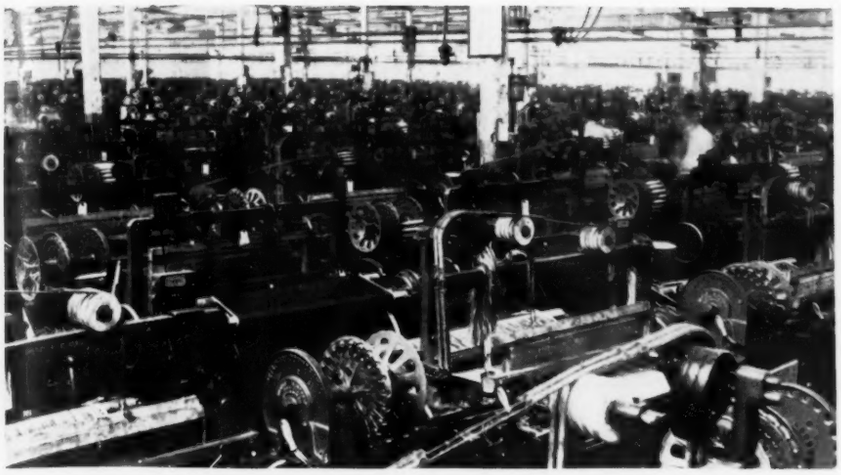
65

Mill Engineer Develops Drive

A MULTIPLE-UNIT range is conveniently driven by several motors, each driving its own unit. Variable speed through wide limits is required for the range as a whole, but at any operating speed, the speed of each unit in the range is approximately the same. The use of a synchronous motor drive in this case has interesting possibilities.

Capt. H. D. Learnard, of Pacific Mills has recently developed an application of synchronous drive for a rope soaping range. In this case each unit in the range is driven by a synchronous motor, and the current for these motors is produced by a special synchronous generator attached to a variable-speed steam turbine.

The variable-speed, steam-electric drive for the rope soaping range is of General Electric manufacture. The steam turbine is for 125-lb. initial pres-



High-speed looms in weave shed of Pell City plant of Avondale Mills

sure, 15-lb. back pressure, synchronous generator, 550 volt, 3 phase, at 120 r.p.m. Motors are conventional squirrel-cage motors, 550 volt, 3 phase.

The speed of the turbine determines the frequency of the current changes and, therefore, gives perfectly flexible speed variation for the range as a whole, but the synchronous motors hold all elements in the range at the same speed relative to each other. To allow for stretch or take-up of the cloth, there are required rather simple variable-speed drives for some of the units in the range, but these operate through a small speed variation determined by the change in length of the cloth.

The exhaust steam from the driving turbine is all utilized in heating the water used in the soapers or in the dry can. In working out this development, Captain Learnard has effected a major reduction in operating cost due to high-speed operation and maximum economy of water, steam, and power.

—Dan Adams

Lockwood Greene Engineers, Inc.

66

Lessens Burden on Workers

THE MANAGEMENT of Avondale Mills, operating plants in Birmingham, Alexander City, Pell City, Sycamore, Stevenson, Sylacauga and LaFayette, all in Alabama, is constantly modernizing its methods and equipment. The most recent project, which is expected to be completed about Dec. 15, calls for an expenditure of approximately $750,000, nearly two-thirds of which is being spent on the Pell City plant. In reference to the modernization work of the company Donald Comer, chairman of the board states: " . . . improvements of machinery and processes are undertaken primarily because they lessen the human burden, but also they increase the efficiency and reduce the cost." In other words, the primary aim of the Avondale management is to put the burden more and more on the machine and less and less on people.

Throughout all the plants modernization of opening and preparatory equipment is just being finished. This is largely for the purpose of keeping dust and short fibers away from the subsequent operations.

At the Pell City plant, where nearly $500,000 is being spent, the opening room has been rearranged and Centrif-Air cleaning machines have been installed. Pickers have been equipped with new synchronizers and evener motions, as well as Gyrators in place of the old type conveyor. The old drawing has been completely replaced, and Whitin Inter-Draft has been added to all 10x5 intermediates. Delivery of better blended, more uniform, cleaner stock to the cards has resulted in a marked improvement of the cloth. Due to this better card-room work, the previously installed Whitin long-draft spinning is giving less ends down and is producing a better yarn.

In the slasher room third cylinders have been added, with a resultant speed increase. Cylinders, size boxes, and cooking kettles were equipped with automatic controls—Foxboro on the kettles, and Ashcroft American on the size boxes and cylinders. Uniformity of warps has been vastly improved. New X-Model Draper looms have been installed in the weave room. These looms have only been in operation a short while, but they show every indication of living up to expectations from the standpoint of both improvement in product and decrease in cost.

A two-story, 90x125 ft. addition to the cloth room is now under construction. When completed, it will house new shears, inspection tables, Sanforizer, and a part of the equipment now in operation.

67

Dries Wool and Hair Uniformly

HIGH PRODUCTION, uniform air distribution, and easy accessibility for cleaning are among the attributes of a large raw-stock dryer installed recently in the plant of Philip Sheerr & Sons, Philadelphia. The machine is used for drying both wool and hair, and has an automatic feed especially designed to handle these products. A woven wire conveyor is used to carry the stock being dried through the machine, which was built and installed by Philadelphia Drying Machinery Co.

Both feed and conveyor are equipped with Reeves Pulley Co. variable-speed apparatus, so that close synchronization between the two units is possible. Fan motors, which were manufactured by Crocker-Wheeler Electric Mfg. Co. are flush with the side walls of the dryer. They are located in insulated pockets, which are open to the room. This method of motor mounting leaves side aisles free of obstructions.

The steel panels inclosing the dryer are insulated with spun glass, and cork seals at panel joints prevent air leakage and insulate the steel panels from the framework of the dryer.

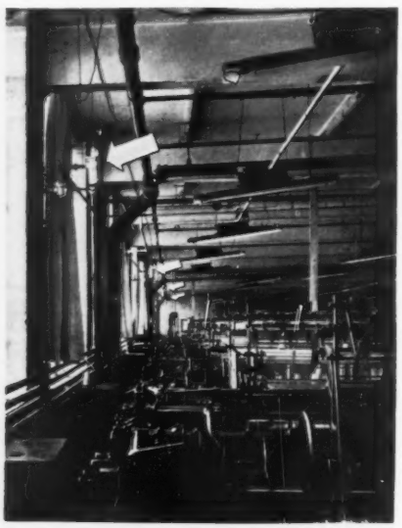
68

Improve Slashing by Control System

MODERNIZATION of the slasher room in Woodside Cotton Mills, Greenville, S. C., has resulted in savings in cost and improvement in operation. The mill manufactures print cloths, using 30s warp yarns. Three two-cylinder slashers, two cooking kettles, and one storage kettle comprise the machine equipment in the slasher room. All temperatures are controlled automatically by instruments, and the whole room has had its efficiency increased through kettle re-arrangement, installation of improved venting of the slasher hoods, new size-handling methods, and training of personnel. This is all part of a completely engineered sys-

tem of slasher control, installed by Taylor Instrument Cos.

Prior to the start of this work, the mill was using one size concentration for all constructions. This figured out to 15.6 oz. of thin-boiling cornstarch per finished gallon of size. With the normal manual operations of the room, this size actually put an average of 11.9% on the yarn. After the installation was completed and the balancing and coordinating of all units and methods had been accomplished, two size concentrations were employed, which worked out to 15 and 15.6 oz., respectively, per finished gallon of size. The average actual deposit of size on the yarn balanced off at 12.75%. Thus, without increased starch consumption, the solids on the yarn increased close to 1% through improved cooking, better size-handling equipment, and operatives that had been completely trained in the new methods. Cloth weights increased, yarn numbers were held closer to standard, and a net saving in cotton resulted. In addition, warp loom stops were materially reduced.



Humidifiers at Weldrest Hosiery, Ltd., reduce breakage—arrows point to humidifiers

69

Humidity Lowers Yarn Breaks

PRODUCTION PROBLEMS caused by low relative humidities during the winter heating season were solved by Weldrest Hosiery, Ltd., Toronto, Ontario, when it installed seven steam-type humidifiers. Low humidities, in the neighborhood of 15% to 20%, made for brittle yarn which necessitated operating knitting machines at low speed. With the new humidifiers, relative humidity is maintained at 45%. The silk is kept in a soft, pliable condition, enabling knitting machines to be run at higher speeds with much less yarn breakage.

Before installing the humidifiers, it was common practice in this mill to remove all silk from the knitting machines prior to week-end shut-downs. Since their installation, it has been possible to discontinue the practice, which naturally results in considerable saving of time.

The humidifiers remove all condensate from the steam before it reaches the atmosphere. This eliminates objectionable drip. Scientifically designed muffling chambers reduce the noise of the escaping steam. Each humidifier is controlled by its own humidistat, which permits very close control over the relative humidity throughout the entire knitting room. The humidifying equipment was supplied by Armstrong Machine Works.

70

Modernizes and Expands Plant

A. W. WHEELER & SON, INC., Brevard, N. C., full-fashioned hosiery manufacturer, has effected an extensive modernization and expansion program designed to increase the capacity of the plant approximately 75%. George W. Wheeler, plant manager, when interviewed relative to this program, stated: "In the summer of 1938, we purchased an additional building adjoining our original building and installed eight more 42-gage Ludwig full-fashioned hosiery machines, consisting of six 18-section leggers and two 20-section footers." The new building was thoroughly modernized before the equipment was installed. He further stated: "The first of this year we remodeled the top floor of our main building and installed a complete dyehouse and finishing room, putting in the very latest Venango Engineering Co. dyeing machines, Paramount Textile Machinery Co. Dual-Heat boarding equipment, as well as equipment for pairing, examining, etc.

"Due to increased production, it was necessary for us to add several more seamers and loopers as well as another one of the latest compressed-air expansion forms.

"Naturally, our increased production is reflecting itself in lower overhead costs. As far as the finishing plant goes, this has not been in operation long enough to effect any saving over what we had been paying outside finishing plants. However, due to having the work done here rather than outside, we are able to keep closer supervision on the quality of our work." —S. W. KLUTTZ

71

Dyehouse Costs Reduced $3,475

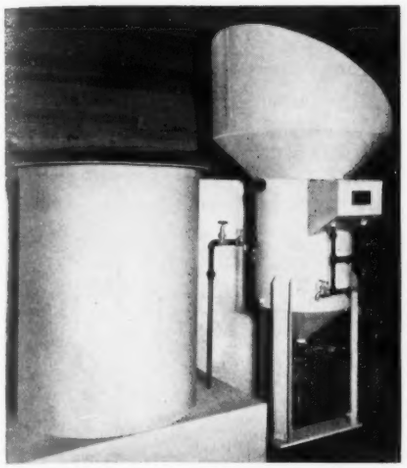
WORTH-WHILE SAVINGS in dyehouse costs have followed the installation at Uxbridge (Mass.) Worsted Co. of an automatic process for making brine in place of the dry-salt method formerly employed. In reference to this process, an executive of the company states: "We have only the highest recommendation for this equipment. It has produced for us a brine of the very highest quality, in a most simple manner. We have substituted saturated brine in all our dyehouse operations instead of the old dry-salt method. Approximating our salt consumption at 1,000 tons a year, we are effecting the following savings:

Cost of salt	23%	$1,500
Savings in labor of unloading salt	70%	475
Savings in salt due to elimination of undissolved salt in washing-off process	15%	1,500
Total		$3,475

"In addition to the monetary savings, we can safely say that the change-over to saturated brine has simplified our salt handling in the dyehouse, due to gravity flow of brine to each kettle. Brine also lends to more uniform results in operation and production."

The method employed is the Lixate Process developed by International Salt Co., Inc. In this process the recommended grade of rock salt is placed in a hopper or storage bin above the Lixator proper. Thereafter all operations are automatic. Rock salt flows downward into the Lixator, and water is admitted through a spray nozzle at the top. Water dissolves the brine without agitation, and becomes fully saturated. Brine is self-filtered to be crystal clear. The saturated brine flows upward through a collecting chamber, and is discharged into a storage tank.

In addition to the savings in labor and salt, since the brine is clear and uniform, it contributes to more level



System for producing brine similar to that installed by Uxbridge Worsted Co.

dyeing and avoids spotting and streaking due to excess accumulations of dry salt or glauber salt in the dye solutions.

72

Per Cent of Rejects Lower

LAWRENCE MFG. CO., Lowell, Mass., has recently modernized its rib and flat knitting department by moving it into a new room, rearranging the machinery, and providing up-to-date lighting. The result is that the costs of production have gone down. Much care was taken with the lighting, and the method followed is particularly interesting. Illumination for the rib knitting machines was handled differently from that for the flat knitting machines, because of the different characteristics of the two types.

All sides of the rib knitting machines are well lighted. Holophane fixtures with blue bases were used. The latter are because it is necessary for the operators to look upward to the stop motion at the top of the machine, and the blue base protects their eyes from glare. The bulbs are 300 watts, and are placed 9 ft. above the floor, the ceiling being 13 ft.

In the flat knitting department the yarn alley is lighted with one RLM reflector with 150-watt bulbs for two machines—one on each side of the alley. The operating alley is provided with Holophane fixtures. The latter are not furnished with blue bases, as the operators do not have to look up to the stop motion, as is necessary with the rib knitting machines.

As an essential part of the lighting program the walls, ceiling, and pillars were painted. The first step was to clean off the old whitewash from the brick walls with a rotary brush operated with a flexible shaft from a portable motor. They were then sized with brick sizer. The ceilings were cleaned by scrubbing. Casein paint was applied with a spray gun down to the dado. In order to provide a surface suitable for washing, the latter was covered with aluminum paint. Advantages attributable directly to the modern lighting include substantial reduction in spoilage and rejects, notable improvement in quality, and vast improvement in working conditions.

—FRANCIS A. WESTBROOK

73

Knots in Yarn Reduced 50%

AS PART of a modernization program, 36 warp and 36 filling frames replaced the original installation at Buck Creek Cotton Mills, Siluria, Ala. These frames have 272 spindles each, 3½-in. gage, and are equipped with four-roll long-draft system. They are of H & B American Machine Co. make, and are driven by individual G. E. motors mounted on Rockwood pivoted bases, with flat belts. At the same time a Parks Automatic Airchanger system was installed in the spinning room.

With the wide gage, long traverse on the bobbin, and maximum size ring, it is possible to put approximately twice as much yarn on a bobbin as was the case with the old frames. As a result of this, together with accurate control of humidity in the spinning room, and with the warp yarn having only half as many knots as it had previously, the loom production has automatically increased between 4 and 5%, due to reduction of loom stoppage.

These frames are all driven by individual G. E. motors mounted on Rockwood bases, with flat belts.

74

Better Matches, Fewer Rejects

INSTALLATION of automatic control instruments on the dyeing machines and boarding machines at Hudson Silk Hosiery Co., Inc., Charlotte, N. C., has resulted in more uniform dyeings and fewer rejections because of off-color shades. On the dyeing machines, American elapsed-time indicating controllers are employed to bring the dyebath to the required temperature, keep it at that point for the desired period of time, and then turn off the steam and light a signal lamp. An indicating thermometer shows the temperature in the dyeing machine. On the boarding machines the control instruments maintain the proper temperature for the particular style and weight of hosiery being dried. One of the major advantages of this application is that it safeguards the hosiery from damage due to excessively high temperatures. The control instruments for both dyeing and boarding machines were made by Manning, Maxwell & Moore, Inc.

75

Fire Protection More Reliable

TO IMPROVE the flexibility of water supplies to the fire system, and at the same time allow the boilers to be shut down when the plant is idle during the summer months, Calhoun Mills, Calhoun Falls, S. C., has just replaced one of its 1,000-gal.-per-min. steam-driven fire pumps with an electric-motor-driven centrifugal fire pump. The new pump is a 1,500-gal.-per-min.,

New spinning frames at Buck Creek Cotton Mills

100-lb., single-stage unit approved by the Associated Factory Mutual Fire Insurance Cos. for fire service. It is directly connected to a 125-hp. 550-volt Type C. S. Westinghouse linestart induction motor and properly arranged with a reliable priming supply and a metal shield or splash plate to protect the motor from water which might escape from the pump or fittings.

The motor control panel was supplied by Southern Electric Equipment Co. and consists of the necessary disconnect switch, circuit breaker, motor starter, ammeter, voltmeter, and pilot light mounted on a sturdy frame.

Calhoun Mills has its own steam-electric generating equipment with an auxiliary connection to the lines of the South Carolina Power Co. which is used when the plant is idle and its own turbo-generators are shut down. Before the electric fire pump was installed it was necessary to keep one boiler fired at all times to operate the steam-driven fire pumps in case of an emergency. Now all boilers are shut down when the plant is idle and no steam is needed for processes or plant heating. However, one boiler is kept with kindling and fuel laid ready to light immediately in case the public power supply is interrupted and the steam pump must be used properly to power supply is interrupted.

—J. K. GRIFFIN
Associated Factory Mutual Fire Insurance Cos.

76

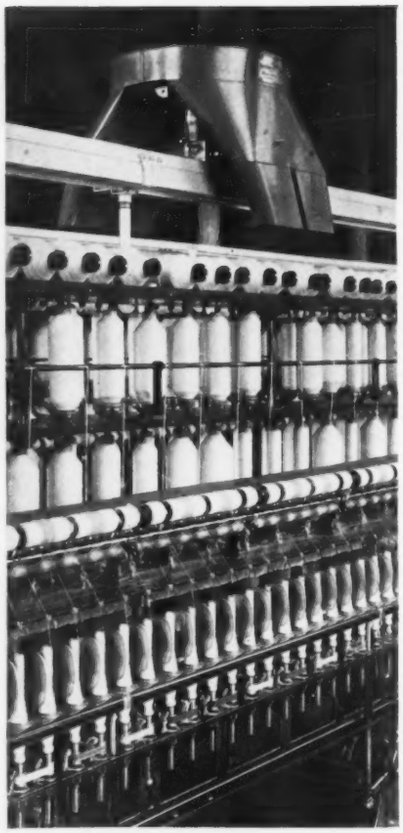
Clean Yarn at a Lower Cost

CAREFUL ANALYSIS of mill costs shows that until the development of practical traveling cleaners, the cost of cleaning was high as compared with the cost of spinning. At the Chicopee Mfg. Corp., Chicopee Falls, Mass., clean yarn and lower costs in the spinning room have resulted from the installation of Parks-Cramer Co.'s Parks Turbo Traveling Cleaners. This installation, one of the largest in New England, has made a definite improvement in quality.

77

Complete Control of Filter Plant

AT ITS FAIRFAX (Ala.) MILLS, West Point Mfg. Co. has recently completed and put in operation an addition to the filter plant. Total capacity of the plant has been raised to 5,000,000 gal. per day. The addition consists of a 1,000,000-gal. unit of International Filter Co.'s Rapid Sand filter. Raw water is taken from the Chattahoochee River and pumped to a coagulating basin about 1,500 ft. from the filter plant. Complete control of the plant is provided by the control tables. There is an automatic basin-level control to maintain a constant water level in the filter. All other valves are hydraulically operated and controlled from the same table. This includes effluent, wash, re-wash, and waste valves. Mounted on the table is an eight-day recording chart which makes a permanent record of the filter loss-of-head and the rate of flow, two lines being traced simultaneously. This gives the condition of the filter at all times and indicates when washing is advisable. One of the unique features of the installation is the sample table on which are mounted three automatic International vacuum sampling devices—one for raw water, one for chemically treated water, and one for the finished water. At this table the raw water just as it is in the coagulating basin can be checked before it enters the filter; the treatment can be watched; and finished water checked at frequent intervals. Next to the central table a Wallace & Tiernan manually controlled vacuum chlorinator is mounted. Adjustments in the rate of flow can be made immediately whenever the necessity is indicated by a check-up on the finished water sample.



Traveling cleaners have resulted in definite improvement in yarn quality at Chicopee Mfg. Corp.

78

Production Flow Smoothed

ANTICIPATION of demands for superior-quality products at minimum costs, by progressive research in methods and machinery, is the rule in the Asbestos Textile Division of Keasbey & Mattison Co., Ambler, Pa. A study of plant layout disclosed many savings could be realized by a smoother flow of production and elimination of unnecessary handling, and the necessary changes were made.

The various methods of preparing fibers have also been studied to determine the most adequate equipment. A complete check-up of carding equipment has resulted in more accurate settings, greater uniformity, and higher efficiency. As much as 20% increase in production has been accomplished in some instances by increasing the number of ends delivered per set of cards.

Installation of latest type, large-package, ring-spinning frames has proved well worth while. Results indicate that these modern machines are definitely superior to less up-to-date spinning equipment. In addition to savings in the cost of spinning itself, elimination of the intermediate spooling operation has proved an important item.

An industrial hazard in the form of dust has been overcome by installation of hoods and ventilation, as well as by introduction of moisture. One of the most successful installations has been a ventilation unit for broadcloth looms.

The expenditure involved in attaining these results has been more than justified by increased production and higher quality, according to the management of the mill.

79

100-Year Old Mill Keeps Up to Date

KEEPING UP-TO-DATE has been the policy of the A. G. Dewey Co. woolen

mill at Quechee, Vt. This policy has been followed by four generations of the Dewey family, since the mill was started over a hundred years ago in 1836. James F. Dewey, present president of the organization, believes the mill could not stay in business without keeping modernized. Several years ago, $250,000 was spent on improvements, and during the last year or two modern stainless-steel dye kettles were installed further to reduce dye costs. In addition, automatic looms, both broad and narrow, have been installed. These are provided with individual motors.

The entire plant is completely electrified, using hydro-electric power generated by the company. Careful provision has also been made in the way of machine shop and other equipment, to render the plant self-sufficient so far as maintenance is concerned. This is important because the mill is located at a considerable distance from centers where such work could be done for it.

—FRANCIS A. WESTBROOK

80

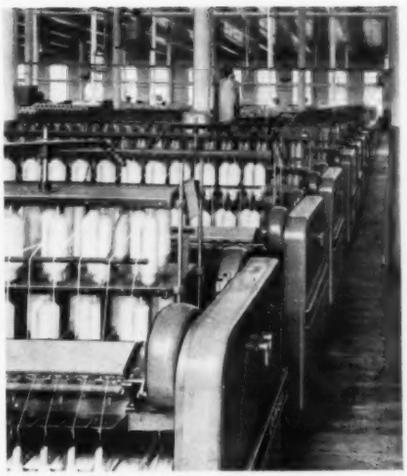
Maintains More Uniform Speeds

AS PART OF AN extensive modernization program undertaken a few years ago, Appleton Co., Anderson, S. C. installed over 30 ceiling-type pivoted-motor-base, lineshaft drives for the purpose of increasing production and decreasing power and maintenance costs. One type of unit which was installed is a Rockwood Mfg. Co. pivoted-motor-base drive with flat-leather belt for driving cards. The looms in this mill are driven by lineshafts in the basement driving to the looms on the floor above. This arrangement frees the weave room from overhead lineshafting, while the pivoted-motor drive to the lineshafts results in more uniform loom speeds and thus in a higher production and better quality of fabric. In addition to the ceiling type drives, Appleton installed special pivoted-motor-base drives on some of its spinning frames.

81

Dyed Stock Runs Better

DURING RECENT MONTHS many changes have been made in the raw-stock dyehouse at Proximity Mills, Greensboro, N. C. Better running stock and more efficient operation are the results. Two new Saco-Lowell openers were installed for preparing the stock, which is then loosely baled on a Lummus baling press and laid aside until needed. The old dyeing machines were replaced with five new Chattanooga 1,000-lb. machines furnished by Vacuum Dyeing Machine Corp. Two C. G. Sargent's Sons Corp. roll press machines and one Proctor & Schwartz dryer were added. International Salt Co.'s Lixate system is used for preparation of brine. All dye liquors feed to the machines by gravity and discharge to a treating basin, where the waste is corrected before being finally emptied in the sewage system.



Spinning room at Highland Park Mill No. 3 has been modernized

82

Complex Set-Up Is Simplified

TO SIMPLIFY METHODS and eliminate the necessity of carrying a large stock in process of various colors, an exhaustive study of manufacturing procedure was made at Highland Park Mill No. 3, Charlotte, N. C. Based on this study, a decision was made to install new drawing, roving, and spinning frames. Details were worked out in cooperation with engineers from Saco-Lowell shops.

New Model 37 4-roll drawing frames with cork top rolls were installed—48 deliveries of breaker and 48 of finisher drawing. These frames with a sliver speed of only 100 ft. per min., replaced the old high-speed, 1⅜-in. metallic roll frames.

In place of 53 old roving frames of three processes, 18 8x4 Model D2 Controlled-Draft frames of 160 spindles each were installed.

Warp numbers, which average 33s, are made on new frames with a 1⅞-in. ring, 7¼-in. traverse, and a spindle speed of approximately 10,000 r.p.m. These frames have 312 spindles each. Frames for average 44s filling with a twist multiplier of 3.50 are 3-in. gage, have a 1⅜-in. ring, a 6½-in. traverse, and a spindle speed of 9,000 r.p.m. Spindles number 360 per frame. All new spinning frames are Model 37.

In addition to more efficient and economical operation, yarns of more evenness and sheen are produced. These qualities are reflected in the finished goods, which are sold in the highly competitive shirting market.

With modern methods, leggers at Apex Hosiery Co., need to be lubricated only once in three weeks

83

Lubrication Job Is Simplified

LUBRICATING multiple-section textile machinery is often a tedious and costly job of maintenance. Apex Hosiery Co., Philadelphia, has solved this problem of textile machinery lubrication by adopting modern lubrication methods.

A 20-section 45-gage Reading Legger which once required lubricating several times daily, is now lubricated on an average of once in three weeks by means of an Alemite Gat Gun with long extension, using a special Alemite lubricant for this purpose. Man-hours for lubrication maintenance have been reduced to a minimum. Costly contamination of material, due to oil and grease drippings, no longer occurs. Floors, which are often a fire hazard due to oil saturation, are safe and clean in the Apex plant.

Removing waste from scouring room at plant of Alexander Smith & Sons Carpet Co.

84

Novel Method of Waste Removal

A NOVEL METHOD of waste removal has been adopted recently by Alexander Smith & Sons Carpet Co., Yonkers, N. Y. Scouring-room refuse materials are brought from the third floor to a pit on the ground. A hoist removes refuse from the pit to concrete draining floors. After the liquid has been drained off, the bulk materials are loaded on a truck.

This operation previously required six men for a period of 4 hr. and was an extremely offensive job, as the men worked inside the chamber throwing the sludge outside and the odor remained in their clothing to such an extent that they were unable to ride on street cars or buses. With the use of this equipment, three men are now required for a period of 3 hr. and none of them is required to work inside the settling chamber.

The equipment used is a P&H Hevi-Lift hoist manufactured by Harnischfeger Corp. This is a 2-ton plain-trolley electric hoist operating on a bracket-type jib crane with an effective reach of 20 ft. The bracket crane is attached to the side of the building and revolves in an 180° arc. Suspended from the hoist is a ½-cu.yd. single-line bucket. With this combination, it is possible to lower the bucket into the settling chamber and grab a bucketful of sediment from the wool-washing department. This sediment is deposited outside of the settling chamber until it dries sufficiently to load into trucks and cart away.

85

Fewer Press-offs, Less Seconds

INSTALLATION of air-conditioning equipment in the knitting department of Artcraft Silk Hosiery Mills, Inc., Philadelphia resulted in increased production, less seconds, and more uniform product. Operating advantages included fewer broken ends, fewer press-offs, and the fact that the knitting machines stay in proper adjustment. Health of employees has been better since the system was installed. This company manufactures 51-gage, full-fashioned chiffon hosiery, mostly two-thread. The air conditioning equipment was installed in 1935 and consists of a Carrier Corp. central-station system.

86

Scouring Time Reduced 40%

AUTOMATIC CONTROL EQUIPMENT installed recently in the wet-finishing department at Kent Mfg. Co., Clifton Heights, Pa., has improved quality and cut costs. The factors controlled in the piece goods scouring department are water temperature, liquid level, opening and closing of water inlet and outlet valves, feeding of soap and alkali, and timing of the various steps in the process. The liquid-level control has eliminated waste of water due to overflow. A 50% cut in water consumption is the result. Accurate control of the liquid level and the time for each operation has cut total scouring time approximately 40%. This system of coordinated control was installed by Bristol Co.

Alan Keay, secretary of Kent Mfg. Co. and superintendent of the mill, in speaking of the installation, states: "We believe our men to be at least as conscientious as the average textile operative. But, even so, we have found that substitution of automatic for manual control has resulted in our machines working more economically and uniformly. This type of control has given us several advantages. However, I believe the improvement in the quality of our product has been as important as anything else we have gained."

87

Avoids Hurricane Damage

"ONCE WAS ENOUGH." That is the way Collins & Aikman Corp. felt in February, 1928, when a windstorm tore off part of the roof and blew in the top-story wall of its 4-story plank-on-timber, brick-walled combing mill, in Bristol, R. I. During that storm, a U. S. Weather Bureau station, 15 mi. away at Providence, recorded the maximum 5-min. average velocity at 48 mi. per hr.

To prevent a repetition of this accident, the walls were reinforced by steel angles when they were rebuilt, and the roof was securely anchored to the brick walls and to the tops of the columns. The bases of the columns were also anchored to the floor of the top story.

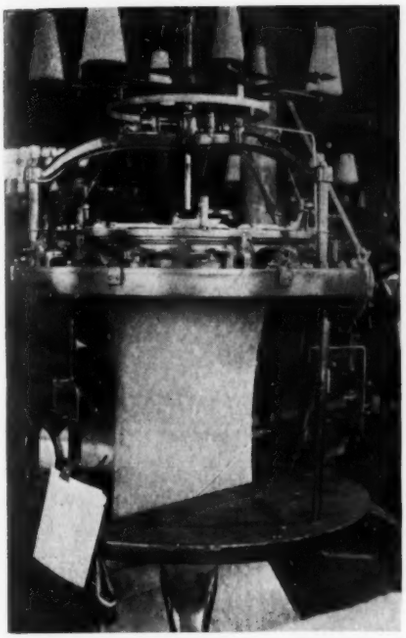
During the New England hurricane of Sept. 21, 1938, the maximum 5-min. average velocity at the U. S. Weather Bureau, in Providence, R. I., is not known, as the anemometer was broken by the wind, but from other sources it was estimated at from 85 to 95 mi. per hr. Roofs were blown off several buildings near the Collins & Aikman plant, but the roof that had been anchored after the storm in 1928, remained in place.

—H. A. Sweet
Associated Factory Mutual Fire Insurance Cos.

88

Produces Highly Styled Fabrics

SEVERAL YEARS AGO Salta Knitting Mills, Inc., New York, installed modern equipment for manufacture of knitted outerwear. The garments were highly styled, and the company was faced with the problem of creating distinctive designs which could not be imitated and cheapened. In an effort to solve this problem, the management acquired a license from Lombardi Knitting Machine Co. and had that company equip the knitting machines with special attachments needed to make the Lombardi patented stitch. Installation of these parts permitted production of a more exclusive line, and also eliminated floats on the back



Specially built jacquard machine installed by Salta Knitting Mills

of the fabric, allowing a greater range of patterns and giving a more closely knit cloth.

More recently, the mill has installed two new specially built Lombardi jacquard machines. These machines afford an even greater variety of patterns, are easier to operate as each machine requires only one pattern card, and cut down time for changing patterns from several hours to a few minutes.

89

Loom Speed and Quality Raised

"HIGHER QUALITY fabrics, higher operating speeds, and higher production." Those are three big advantages which the Montrose Mill of Guerin Mills, Inc., Woonsocket, R. I., has obtained by installation of modern weaving equipment, according to R. J. Fontaine, assistant secretary of the company.

Montrose Mill has long been known for high-grade worsted fabrics for men's wear, and it is expected that the mill can produce even better fabrics now, due to the smooth operating characteristics of looms being installed. More picks per minute can be obtained with the new looms, and weavers can operate more looms than was possible with older types. Thus, each weaver can take off considerably more cloth than before. Efficiency is increased about 15%.

Montrose Mill has installed W2 and W3 looms, both of which types are manufactured by Crompton & Knowles Loom Works. The convertible feature of the W3 looms—they can be operated either as 4x1-box automatic or 4x4-box pick-and-pick—has given the mill greater flexibility.

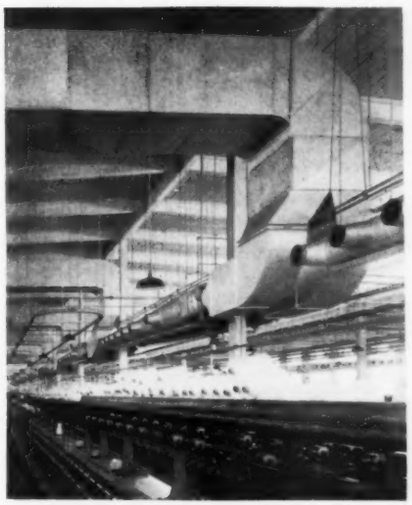
90

Insures Ample Steam Supply

MODERNIZATION work carried out recently by Pee Dee Mfg. Co., Rockingham, N. C., has comprised installation of new dyeing, drying, warping, and weaving machinery, and the replacement of old boilers in both Mill 1 and Mill 2 with modern power-generating equipment. The changes made in the boiler rooms assure an ample supply of steam at all times.

In Mill 1 a 150-hp. E. Keeler Co. Type CP steam generator was installed; in Mill 2, a similar unit, but of 250-hp. The steam generators are designed to operate at 150% of normal rating continuous, and 200% of rating for 4 hr. peak. They are equipped with Combustion Engineering Co. Type E single-retort stokers. With these new self-contained units, the mill is obtaining a combined boiler and furnace efficiency for stoker firing of nearly 80%, and the efficiency curve over the entire load range, from minimum to maximum rating, varies only a few points. Another advantage over the old boilers is that the new steam generators respond quickly to widely fluctuating load conditions.

The new productive equipment installed includes a Cocker high-speed warper; 50 C & K dobby looms, which replace older equipment in the weave room; four 1,000 lb. raw-stock dyeing machines made by Morton Machine Works, and a Proctor & Schwartz raw-stock dryer with Taylor control instruments.

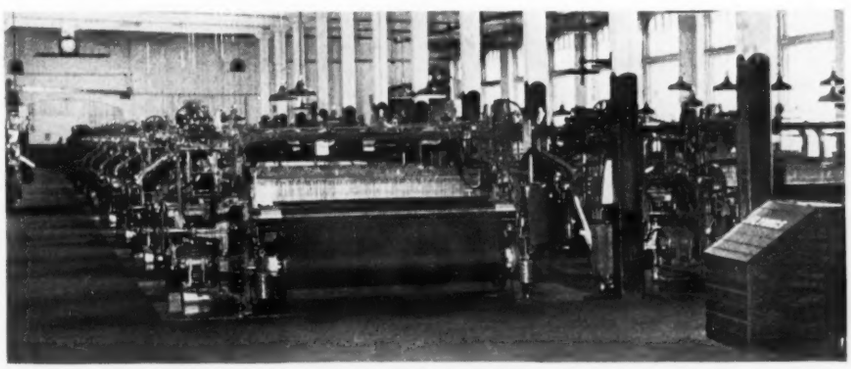


Uniform humidity and lower temperature are obtained in Carlton Yarn Mills with modern air-conditioning equipment

91

Production Up Costs Down

OVER A PERIOD of five years Carlton Yarn Mills, Inc., Cherryville, N. C., has installed 57 Bahnson Co. Humiducts in various departments. Regarding results obtained with this equipment, C. A. Rudsill, treasurer of Carlton Yarn Mills, Inc., says: "About five years ago we made our first installation of Humiducts in our combing and speeder room. We operated them for about a year with such pleasing results as to uniformity of humidity and lower temperature that it was not hard for us to make a decision to put in this system throughout our spinning and twisting departments. We have never regretted the investment of placing this in our entire plant, as it has enabled us to bring about a great improvement of working conditions and improved quality of our product. Also our production has been increased at a lower cost."



Modern convertible looms in weave-shed of Montrose Mill of Guerin Mills, Inc.

92

Card Clothing Lasts Longer

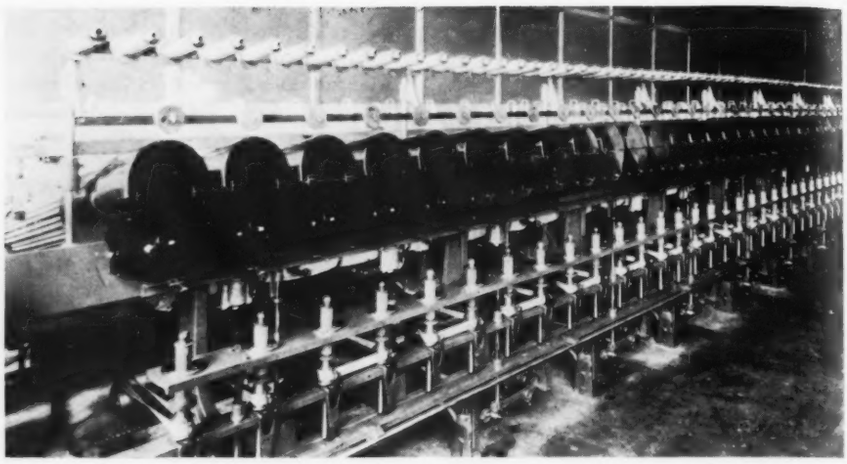
AT THE NAUMKEAG STEAM COTTON CO., Salem, Mass., where the famous Pequot sheets are made, a careful study was made of the results obtained with a new portable card stripper. The study disclosed that strips removed with this equipment—Parks-Cramer Co's. portable dustless card stripper—have greater value and that the card clothing lasts longer and stays in better condition. In addition to these benefits, the initial cost and operating cost for a group of cards are low. A still further advantage is the dustless feature.

93

Maintenance Cost Reduced

RECENTLY, IMPERIAL RAYON CORP. (formerly New Process Rayon, Inc.), Gloucester City, N. J., installed new equipment for continuous spinning of cuprammonium yarn. Since this equipment is operated continuously—24 hr. a day, 7 days a week—reliability of component parts is essential to prevent breakdowns. One of the features of the spinning machine, which was built by Edward G. Budd Mfg. Co., is that each of the 42 cylinders is equipped with 7 Fafnir, large-ball, deep-race, radial bearings. In addition, the pump and thread oscillating driveshafts and the tape drum supports are equipped with Fafnir wide inner ring bearings.

Use of these two types of bearings has not only resulted in reduction of friction, but has decreased production losses and maintenance costs due to machine breakdowns caused by bearing failures.



Each new spinning machine at Imperial Rayon Corp. is equipped with 346 anti-friction bearings

94

Sliver Variation Only 11%

SIX NEW COMBERS have replaced 18 old ones. At Jewel Cotton Mills, Thomasville, N. C., where this installation was made, it means that 72 heads have taken the place of 144; yet comber production capacity has increased 3,000 lb. a week. The product of this mill is exclusively fine combed yarns and, naturally, quality is of first importance.

With the old system, sliver was prepared on a sliver lapper and ribbon lapper before being fed to the comber. The new system consists, first, of a single passage of the card sliver through a line of four-roll drawing with cushion-type top rolls and, second, of forming the drawing slivers into a 10½-in. lap on a lap winder. These laps serve as the supply for the comber. Following combing, the slivers are passed through a single line of drawing, after which they are ready for the slubber.

According to tests, sliver from the old combers had an average variation of 34.63% after the sliver was passed through one line of drawing. Sliver from the new combers, after having been drawn once, has an average variation of only 11%.

In addition to a lowering of the average variation with the new combers, there is an extremely low loss of spinnable fiber in noils. The combers are supplied by a single lap winder. Both lap winder and combers are of Saco-Lowell make.

Six new combers replaced eighteen older ones at Jewel Cotton Mills

95

Develops New Bleaching Method

CONTINUOUS BLEACHING has eliminated extra handling of woolen skeins at S. & M. Dye Works, Philadelphia. Several months ago L. H. Mason, president of the company, conceived the idea of using a special type of conveyor in connection with sulphur bleaching, to make the process continuous. Normally, the conveyor is operated at a speed of 6 in. per min. However, for different grades of wool, and because of conditions prevailing in the sulphur chamber, the speed occasionally is reduced to 4 in. per min. At other times the speed is increased to as much as 24 in. per min. The conveying equipment was designed and built by Link-Belt Co. A PIV variable-speed transmission, coupled to a double - reduction herringbone - gear speed reducer, drives the conveyor and makes it easy to obtain any desired speed.

Equipment Check-Up Chart

This chart permits readers to make a quick comparison of modernization work carried out in other plants with that in their own mills. For ready reference, each of the items on pages 86 to 114 has been numbered consecutively, and in the classified list below this number precedes the title of the article. Thus, one can pick out those operations which are of particular interest and locate the various items on those subjects.

Cotton

1. Straight-Line Production Flow ☐
11. High-speed Warping Cuts Costs ☐
16. Larger Packages Give Higher Speeds ☐
35. Lap Variation Is Negligible ☐
39. Fiber Conditioning Reduces Fly ☐
50. High-speed Looms Operate at 182 Picks Per Min. ☐
52. Weighing-Conveying System Saves Starch ☐
53. Obtains Continuous Flow of Goods in Process ☐
57. Reduces Winding Costs, Increases Wages ☐
66. Modernizes to Lessen Burden on Workers ☐
73. Large Packages Reduce Knots 50% ☐
76. Traveling Cleaners Improve Yarn Quality ☐
82. Complex Set-up Is Simplified ☐
92. Portable Card-Stripper Proves Advantageous ☐
94. Reduce Sliver Variation from 34 to 11% ☐

Wool

3. Better Scouring With Instruments ☐
12. Worsted Mill Increases Loom Speed ☐
20. Washes Upholstery Fabrics at 12 yd. per Min. ☐
25. Increases Production per Spindle 50% ☐
51. Dyeing Raw-Stock in Small Lots Made Easier ☐
55. Winder Production Increased, Fatigue Lessened ☐
67. Drying of Raw Stock Improved ☐
78. Up-to-date Wool Machinery Used for Asbestos ☐
79. Old Mill Keeps Up To Date ☐
89. Increases Loom Speed, Raises Quality of Fabrics ☐

Rayon & Silk

5. Increases Doubler-Twister Production ☐
7. Quantity and Quality of Light Improved By Fluorescent Lamps ☐
14. Controls Tension in Warp Sizing ☐
21. Silk Recovered from Imperfect Hosiery By Backwinding ☐
22. Throwing Plant Effects Economics in Water Softening ☐
23. Balanced-package Throwing Reduces Costs ☐
38. Throwing Plant Finds Air-Conditioning Useful ☐
44. Energy Drive Boosts Loom Production ☐
48. Eliminates Refinishing of Rolls for Warp-Sizing Machines ☐
83. Hosiery Machines Lubricated Only Once in Three Weeks ☐
93. Maintenance Costs Reduced ☐

Knitting

6. Gives Versatility in Half-Hose Mill ☐
21. Salvages Silk by Backwinding ☐
29. Produces 60 yd. per hr. of Jersey Cloth ☐
34. Spends $250,000 to Modernize Hosiery Plant ☐
42. Soft Lighting Eliminates Shadows in Hosiery Plant ☐
49. New Machines Produce Wide Range of Fabrics ☐
54. Speeds Up Inspection Of Hosiery ☐
60. Reduces Seconds, Increases Output ☐
63. Inspecting Form Exposes Hidden Defects ☐
70. Increases Production and Lowers Cost ☐
88. Produces Highly Styled Outerwear Fabrics ☐

Bleaching, Dyeing, Finishing

8. Reduces Yarn-Dyeing Costs ☐
17. New Dyeing Plant Modern Throughout ☐
20. Continuous Washer Speeds Up Production ☐
28. Lowers Drying Costs ☐
32. Ventilators Resist Corrosion ☐

(Continued on next page)

Equipment Check-Up Chart

Continued from previous page

43. New Dyehouse Saves $15,000 Annually ☐
51. Stock-Dyeing Machines Facilitate Color Changes ☐
56. Dye Reels Do Not Chip or Break ☐
64. Lengthens Life of Tenters ☐
67. Raw-Stock Dryer Increases Production ☐
71. Saves $3,475 Annually in Dyehouse Costs ☐
77. Filter Plant Provides Clear Water ☐
81. Dyed Stock Runs Better ☐
95. Continuous Bleach Eliminates Extra Handling of Woolen Yarn ☐

Power Generation

2. New Boilers Insure Against Shut-Downs ☐
15. Reduces Cost of Driving Stoker ☐
37. New Boiler Pays for Self in 1 Year ☐
46. 14% Fuel Saving in Modernized Power Plant ☐
59. Cures Overload on Power Plant ☐
90. Insures Ample Steam Supply ☐

Power Transmission

4. Cuts Down Bearing Failures ☐
9. Provides Capacity for Future Needs ☐
24. Synchronizes Operations with Range Drive ☐
30. New System Provides 60-Cycle Power ☐
33. Solves Difficult Drive Problem ☐
40. Drive Increases Mule Output 16% ☐
44. Speed of Rayon Looms Increased By Energy Drive ☐
65. Mill Engineer Develops Drive For Rope Soaping Range ☐
80. Motor Drive Maintains More Uniform Speeds on Cotton Cards ☐

Air-Conditioning

10. Increases Production, Lessens Seconds in Hosiery ☐
18. Improves Cotton Weave-Room Conditions ☐
26. Holds Weave-Room Humidity to Close Limits ☐
31. Uniform Conditions in Cotton Spinning Room ☐
38. Maintains Proper Regain in Thrown Silk ☐
45. Provides Comfortable Conditions in Hosiery Mill ☐
47. Sets Uniform Room Conditions in Worsted Mill ☐
62. Evens Out Hot Spots in Cotton Mill ☐
69. Controlled Humidity Reduces Yarn Breaks in Knitting Mill ☐
85. Fewer Press-offs and Seconds in Full-Fashioned Mill ☐
91. Cotton-Yarn Mill Increases Production and Lowers Costs ☐

Lighting

7. Raises Illumination to 20 Foot-Candles ☐
36. Glareless Illumination on Printing Machine ☐
42. Increases Light Intensity in Hosiery Mill ☐
58. Better Working Conditions and Product Quality ☐
72. Up-to-date System Results in Fewer Rejects in Knitting Mill ☐

Control

3. Better Scouring With Instruments ☐
13. Hosiery Dyes More Uniformly ☐
14. Slasher Control System Insures Uniform Sizing of Rayon Warps ☐
27. Gives $37,000 Annual Fuel Saving ☐
41. Uniform Moisture Content in Cotton Warps ☐
68. Improves Slashing of Cotton Warps ☐
69. Humidity Control Eliminates Yarn Breaks ☐
74. Better Matches and Fewer Rejects in Hosiery Dyehouse ☐
77. Condition of Water Filter Indicated Automatically ☐
86. Cloth-Scouring Time Reduced 40% ☐

Maintenance

19. Clean Floors Prevent Spoilage of Materials ☐
61. Oils Woolen Ring Spinning Frame in 1 min. ☐
75. Cotton Mill Obtains More Reliable Fire Protection ☐
83. Simplifies Lubrication of Full-Fashioned Machinery ☐
84. Carpet Mill Installs Novel Waste Removal ☐
87. Anchored Roof Withstands Hurricane ☐

ADVERTISING PAGES REMOVED

THE OVERSEERS' CORNER

A PETE AND BILL DISCUSSION

WHAT ABOUT LEGAL HOLIDAYS?

"Thanksgiving Day is nearly here!" shouted Pete exuberantly one crisp fall day, as he and Bill stepped out of the mill for a breath of fresh air. "I can almost taste that turkey now and hear the crowd yelling at the football game." He slapped Bill resoundingly on the back and danced a jig step.

"So what?" grunted Bill. "You'll be here with the rest of us. You ought to remember by now that when we're running full the mill observes only Christmas day. And that's too much, when the men only work 40 hours a week!"

Pete looked glum. "New Years, Lincoln's Birthday, Washington's Birthday, Memorial Day, Fourth of July, Labor Day, Columbus Day, Election Day . . . . Gosh! There must be a dozen of them," he muttered half to himself.

"We don't need holidays in this business," sneered Bill. "Men and machines have no business stopping more than once a week. The good Lord made Sunday for that, and now we've thrown in Saturday for good measure. Only a fool would advocate breaking up

"Pete and Bill stepped out of the mill . . ."

production schedules by stopping again in the middle of the week!"

Pete began to bridle under this goading. "All right, slave driver," he shot back. "Just remember that the workers had no holidays even before hours were reduced to 40. A holiday makes everybody feel better. Furthermore, textile economists are always yelling about overproduction. Instead of curtailing weeks on end at times, we could spread two weeks of this over the year by shutting down on legal holidays."

"When I was a young man," began Bill, "we went to work by candlelight and—"

But Pete had walked away and left him.

Should mills observe legal holidays common to their locality?

Letters From Readers

Overseer Is Team Captain

"Helping Displaced Labor"
Pete & Bill, August, 1939

Editor, Overseer's Corner:

The overseer who thinks that his responsibility ends with the proper policing of his department needs to broaden his viewpoint. The overseer demands that his men be skillful, industrious and loyal. He strives for efficiency and economy in his department. He may demand of his company better tools, improved working conditions, and even better rates of pay. Having done all of these things, the overseer feels that he has discharged his duty to his company and to his men, and is content with himself. Should a condition arise when industrious and loyal workers lose their jobs through no fault of theirs, the overseer who feels it is not his responsibility to place these men elsewhere is not an overseer but just a monitor.

The fear of losing a job has a paralyzing effect on one's morale. Isn't a worker likely to work more like an inspired man if he knows his overseer won't let him down, no matter what happens? In a sense, an overseer may be likened to the captain of his team. Think of a captain deserting his teammates when prospects are dark and gloomy! The overseer, to fully earn the title, should find jobs either in some other part of the mill or on the outside for his men when they are faced with the loss of their jobs.

Samuel N. Selman
Fox Chase Knitting Mills, Inc.
Rockledge, Pa.

Use Judgment in Employing

"Kinfolks & Angels"
Pete & Bill, June, 1939

Editor, Overseer's Corner:

Of paramount importance to a business is the proper selection of an overseer. When a company has the best man for this job then it is to be assumed that the overseer will exercise his best judgment in determining whether or not to employ his relatives. An overseer working for the best interests of his organization will give preference where preference is due.

An overseer who makes a practice of hiring his relatives solely because of their kinship will eventually bring about his own downfall. It does not take long to determine the efficiency of an employee. Should any of the overseer's relatives prove to be inefficient then it will become the duty of

CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York.

Heat Exhaustion and What to Do

HOW TO IDENTIFY:

1. Dizziness—person usually acts dazed; may stagger.
2. Feeling of sickness—vomiting.
3. Chilliness.
4. Face pale.
5. Sweating profusely, especially on forehead and face. Entire body may be clammy.
6. Pulse weak and rapid. Body temperature below normal.
7. Fainting—loss of consciousness for short period.

WHAT TO DO:

1. Send for doctor promptly.
2. Remove victim to fresh circulating air.
3. Keep him lying down with head low.
4. Make clothing comfortably loose.
5. Keep him warm—blankets both under and over him.
6. Rub arms and legs gently toward heart through the blanket to assist blood circulation.
7. If able to drink, give him frequent drinks of salt solution, or salt tablets, to replenish the lost body salt. (A level teaspoonful of salt in a pint of cool—not ice cold—water.) Hot coffee or tea also may be used as a stimulant—but no ALCOHOL.

—NATIONAL SAFETY COUNCIL

the overseer to rid himself of his relatives. This would not be done of his own accord but rather at the demand of his bosses. Several similar occurrences, and the overseer himself will be treading "the last mile."

Sidney Stein
Worcester, Mass.

Politics Cause Trouble

"Mixing in Politics"
Pete & Bill, April, 1939

Editor, Overseer's Corner:

A leading journalist recently said: "True learning involves unlearning." That certainly applies to politics; and the mill is not the place for learning and unlearning the various political policies.

Usually the most ardent politicians are the very young and the very old men who think they have learned all that there is to learn. My own political record is not one that I can be proud of. As a young man I wasted on politics both my own time and that of my employer, and now I question if I agree with more than one-half of what I then thought as impregnable.

In the years since then, in America and England, I have in turn favored the policies of Republican, Democrat, Conservative, Liberal Imperialism and Labor. And now at 50, I find that politics have got me nowhere.

It is often said that what is good for the employer must be bad for the employee, but this is not necessarily so. This was brought home to me some time back. The president of an engineering corporation was taking an active part in politics. His employees opposed him in every way, even to saying that his patents and designs were no good. He lost several jobs as a result, which was bad for his company.

Alfred Layzell
(London England)

Education, a Necessity

"Informal Classes For Workers"
Pete & Bill, July, 1939

Editor, Overseer's Corner:

Being in charge of a dyeing and finishing department, I am in a position to realize the benefits of having my men educated in the lines of their work. An overseer of any department always has his hands full, and if the men under him know their respective jobs and are able to carry out instructions themselves without the aid of one of the second hands, this reflects back to the overseer as having an efficient department with a top set of employees. The days of hoarding hosiery mill secrets are fast coming to an end. Also, what is the use of having a room full of employees if the overseer and second hands are to do all the work?

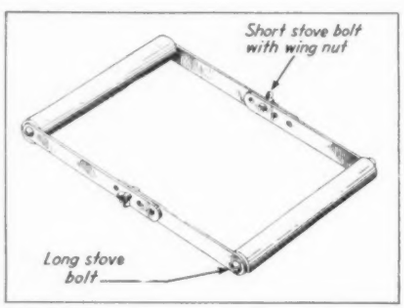
Milton J. Hoffman
Alden Mills
New Orleans, La.

Overseers' Practical Helps

Bending Shuttle-Box Binders

There are many ways of bending malleable iron shuttle-box binders—correctly as well as incorrectly. To do the job correctly, a fixer should understand fully just where and why the binder is to be bent.

If shuttles are creeping out of the box, the binder should be bent at a point slightly in front of its center. When a loom is banging off due to a binder with the bend at the extreme front end, this binder should be bent from the center toward the back end. In order to prevent banging-off when large shuttles are being used, the correct point of bend is toward the front of the binder; there should be only light tension on the binder spring.



Handy shuttle-binder bending device made from junk parts.

Many inexperienced loomfixers, to bend a binder, will hit it with a heavy hammer. This practice is likely to cause serious damage. Damage to both tools and binders can be avoided by removing the binders from the loom and bending them with the device shown in the accompanying illustration.

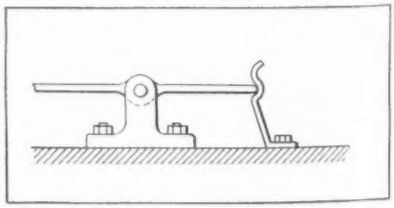
The bending tool is made from two pieces of discarded rocker shaft—one 3 in. long and the other 3¼ in., and four pieces of flat steel 4 in. long. The two pieces of round stock are drilled through the center lengthwise to receive a long stove bolt. In one end of each of the flat pieces a hole is drilled to receive the stove bolts. Four holes ¾ in. apart are drilled in the other end of each piece, to take small stove bolts fitted with wing nuts.

When using the bending device, place the binder, face down, on the rollers, and tap with a small hammer along the back at the point where the bend is needed. The rollers prevent the binder face from being cut. To make sharp bends move the rollers closer together by means of the adjusting holes. Move the rollers further apart for long bends.

Use of this device will improve both appearance and performance of shuttle boxes.—H.E.W. (Pa.)

Belt Creepage Prevented by Spring Device

Our beamers are equipped with a loose pulley and a two-speed belt drive; the belt is shifted by means of a foot-



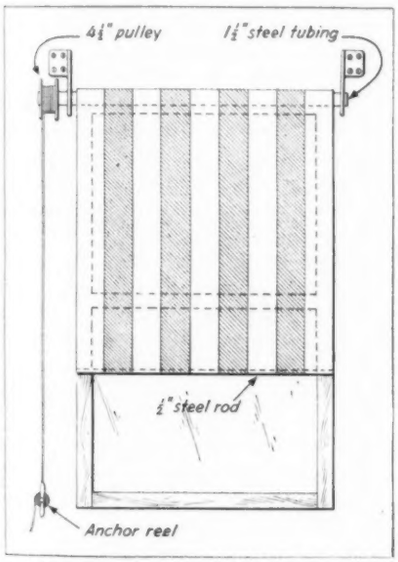
Old shuttle spring makes useful device for preventing beamer belt creepage.

pedal arrangement. Often, it is necessary to operate the machine at low speed, especially when the creel is running out.

We were having trouble with the belt creeping off the low-speed pulley. Finally, one of our beamer men devised a method to prevent this, by having the blacksmith bend an old shuttle spring and fasten it to the floor as shown in the accompanying illustration. It is fastened near one of the extra pedals and not near the one usually used in operating the beamer. This device does not hinder the shifting of the belt, and is effective in holding the belt on either the middle or low-speed pulley.—L. P. (Ala.)

Window Shade Made of Awning Fabric

Window shades made of awning fabric are inexpensive and compare favorably with regular commercially made shades. They are efficient in shading delicate fabrics and protecting workers' eyes. Thus they are especially suitable for mill use.



Awning fabric makes good shades for large windows.

The shade is rolled on a 1½-in. steel tube with a 4½-in. pulley on the end of it. The pulley can be either cast aluminum or turned wood. A ½-in. steel rod at the bottom of the shade serves as a weight for lowering. For raising the shade, an awning cord attached to the pulley is used. This is tied off at an anchor reel at the bottom of the window casing. Brackets for mounting the shade are cut from sheet steel. Assembly of the shade is shown in the accompanying illustration.—T. M. (Ohio)

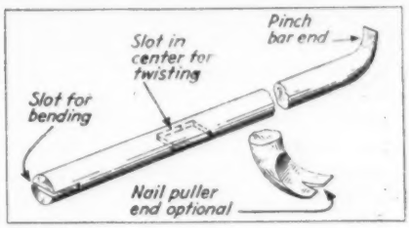
Twisting Metal

Many times about the mill, short pieces of metal are needed in shapes which require bending or twisting while the metal is cold. This task becomes quite simple when done correctly.

Place the metal in a vise and use a monkey wrench for twisting, in the case of light work. Do not use a Stillson wrench, as the jaws will mar the stock considerably.

For heavy work or sharp bends and twists, a bending tool made from $\frac{15}{16}$- or 1-in. rolled stock does good work. A slot is cut in the one end of the bar, allowing a long leverage for bending. This tool is shown in the accompanying illustration.

A slot is cut likewise in the center of the bar, this slot being used for twisting, or for bending the work through only slight angles. This slot can be cut by first drilling several holes through the steel bar, after which the bar is filed down smooth.



Slotted bar for twisting and bending heavy work will prevent marring of the stock.

The handiness of this bar is further enhanced by bending and sharpening the other end for use as a pinch bar. The bent end, instead, can be cut as a V slot to serve as a nail puller for opening boxes, etc. The over-all length of the bar should be from 3 to 6 ft., according to the type of work that it is to be used for.

Scratched Printing Rollers

Common and uncommon causes of this troublesome problem

By MALCOLM MACKAY

SCRATCHING of copper printing rollers is one of the worst of the nightmares which haunt the textile printer. One reason is that it often is difficult to determine the cause of the scratches. It is believed, therefore, that the following list of causes and means of eliminating them will help other printers to overcome this trouble.

1. Wire-edge off doctor blade—After a doctor blade is filed, there will always be a wire edge on the blade. If a blade with a wire edge is put in the printing machine, this edge will come off in the color pan, catch under the doctor blade, and scratch the printing roller. The wire edge should be removed by stoning the blade after filing.

2. Grit and sand in water supply—Grit and sand are often found in the water used for washing boxes, dippers, color tubs, and straining cloths. The same water supply is usually employed in the mixing of the pastes and thickenings. Most plants use straining cloths over the faucets of the color kettles. However, this problem should be taken care of at the filter plant.

3. Grit, cinders, and other hard particles lodging in cloth during bleaching and drying operations—This is a problem that seldom confronts the printer. Some plants bring the cloth, in rope form, from the bleach house to the drying unit in the print works. In the passage, cinders settle on the cloth and grit or sand is sometimes blown on the cloth. As the cloth is damp, these foreign particles adhere to the cloth, and the passage of the cloth through a water mangle presses the particles into the fabric, where a brush cannot remove them. Cloth passing from one building to another, in rope form, should pass through a housing to protect it from these foreign particles.

4. Grindings off dry bearings on printing machine—Frequently the mandrel and cylinder bearings are allowed to run without oil. A dry bearing will grind or shear off. These grindings often drop in the color pan, lodge between the doctor blade and the roller, and scratch the roller.

5. Sand in improperly processed starch or printing gum, hydrosulphite, potash, dyes, glycerine, and other supplies used in preparation of the printing color—This is a problem for the laboratory. If grit or other foreign particles are found in the supply, a supply free of foreign particles should be obtained.

6. Grit picked up by straining cloths that are carelessly allowed to touch the floor—There is not a great danger from this source, as the color shop floor is washed quite often and is usually free of any grit. If it occurs, it is due

to carelessness on the part of the color mixer.

7. Foreign particles lodged in backgray—During the washing of the backgray grit coming in the water supply may lodge in it. By allowing the backgray to run slack, foreign particles may be picked up by it from the floor and dropped off into the color pan. Scratches from this source can usually be traced by the repeated scratching of the printing roller near the edges of the white cloth, with no scratches occurring away from the edges.

8. Doctor filings picked up by clothing of printer or other workers and dropped off into color tubs—Doctor filings are generally found on the printer's work bench after filing of the blades. If the printer and other workers lean against the bench, the filings will adhere to the clothing. Anyone leaning against one of these work benches should always be careful to brush off all filings before going near a color tub.

9. Doctor filings lodged in crevices of doctor shear—The doctor blade is held in place by a metal holder or shear. The blade is fastened in this shear before filing and placing in the printing machine. The blade stays in this shear until blade is worn out and is then replaced with a new blade. During the sharpening or filing of the blade, the filings will lodge in crevices of this shear. The shear and blade should be brushed and wiped, or even washed, with much care before being placed in the printing machine.

10. Particles of glass from bottles or windows that are accidentally broken—This seldom happens, but should be carefully watched, as glass in a tub of printing color can cause serious cuts on the hands of the color mixer, as well as scratching the printing roller.

11. Sand blown in through open windows during high winds—During high winds, all windows in the color shop and around the printing machines should be closed.

12. Rust particles from water pipes or pipes on which straining cloths are hung when not in use—All water pipes serving the print works should be of rustless metal. Straining cloths should be hung on wooden racks.

13. Concentration of dyes too high in printing paste—This is true particularly with vat colors. The amount of dye is too great for the reducing agents and the printing paste to hold in solution or suspension, and the part that is not held collects under the doctor blade and rips the printing roller.

14. Improper thickening agent or thickening agent that is not properly prepared—Some thickening agents do not properly lubricate the printing roller at the point of contact with the doctor blade. This will cause undue friction between the doctor blade and the roller. The blade will wear the roller at the points of least lubrication. If the thickening agent is not properly cooked or prepared, it will give much the same trouble.

15. Static electricity—There is usually a large amount of static electricity around a printing machine. This will cause the doctor blade to pull the copper away from the printing roller much the same as in the process of electroplating of metals. This usually occurs in several places on the roller, but not over the entire surface. This trouble is particularly noticeable with vat colors. It can be eliminated by insulating the doctor blade. This insulation may be done by placing a rag between the blade and shear or holder. The white cloth and backgray may also be grounded. A thickening agent that is a poor conductor of electricity is also helpful.

Finally, it should be mentioned that chromium plating of printing rollers will help to reduce the danger of scratches from most of the causes mentioned above.

Slashing and Weaving

Operating executives discuss recent developments which increase efficiency

RESULTS OBTAINED by use of an additional third cylinder on slashers, size circulating systems, rubber-cushioned shuttle springs, and other slasher- and weave-room developments were discussed at a meeting of the Textile Operating Executives of Georgia, held recently in Atlanta. Preceding the technical sessions, Robert Arnold, president of the Georgia Cotton Manufacturers Association, spoke briefly on the importance of maintaining proper public and employee relations. Allen Jones, superintendent, Muscogee Manufacturing Co., and chairman of the association presided.

Discussion of slashing problems was led by George E. Glenn, superintendent, Pepperell Mfg. Co., Lindale, Ga. In reference to use of tension-equalizing creels on slashers, George Harris, of Fairfax, Ala. stated that he has been obtaining satisfactory results over a period of 2½ yrs.; running 12s to 20s yarn at higher speed, he is getting fewer loose ends and better results in weaving.

Commenting on the use of an additional third cylinder, J. D. Walker of Lindale, Ga., said that he has been using a 7-ft. third cylinder on three slashers since April; with this arrangement, increase in production amounts to 65% (117 oz. per min. to 193 oz. per min.) and a superior yarn is obtained. On this installation, anti-friction bearings were installed on all bearings except squeeze roll, and speeds were increased. No change was made in size formula, and stretch of yarn was maintained without difficulty at about 1.85%. W. S. Steele, of Enoree, S. C., remarked that by installing an additional 5-ft. cylinder, he obtained a 33% increase in speed; he is running ends of average 21s. Floyd Topley, Alexander City, Ala., suggested that in the light of his experience, a 7-ft. cylinder might be better than a 5-ft. cylinder, because of quicker drying and tendency of yarns of lower count to shed.

Good results are being secured by C. O. Cronic, La Grange, Ga., by running spun-rayon warps in the same size as cotton, the temperature in size box being maintained at 160° F. at any and all times.

E. H. Rogers, of Fulton Bag & Cotton Mills, Atlanta, stated that his mill is using two size circulating systems; one with which the size is pumped to the slashers and overflows by gravity puts more size on the yarn than the other system with which the size flows by gravity to the slashers and the overflow is pumped back. Paul Seydel, Atlanta, described briefly the European methods of drying by means of hot air. Cylinders are being replaced by heated chambers, which do away with the most of the surface contacts. The warp is handled on reels with a minimum contact, and a saving in floor space is effected. The chambers are insulated, improving room conditions. While Europe is getting away from the cylinder dryers, according to Mr. Seydel, there are only a comparatively few hot-air dryers in this country. J. D. Walker contributed the following formula in connection with the discussion of ounces of yarn per minute delivered on slashers:

(Ends ÷ Yarn Nos.) × 0.019 = Oz. per Yd.

WEAVING. Erwin Lehman of Langdale, Ala., lead the discussion on weaving problems. Several members reported

that experiments they have conducted with fluorescent lamps in the weave room have been highly satisfactory. A number of mills represented have provided salt tablets for workers in the weave room. The concensus was that the salt tablets are beneficial where one is exposed to high temperatures. Less time out on account of over-heating can be expected where the tablets are provided.

Bob Willingham, of Lanett, Ala., outlined his method of cleaning looms. Looms are cleaned by air once in every 8 hr. and then are given a thorough cleaning when the warp runs out. For this special cleaning the loom is curtained off and all parts which are very dirty are sprayed with kerosene. On heavy work, one cleaning hand can take care of 125 looms; on fine work, up to 250 looms. It was brought out in the discussion that good air pressure, from 40 to 85 lb., is necessary; the opening in air nozzle should be 3/16 in. W. R. Parker, Valdosta, stated that his looms are cleaned by air every 24 hr., one cleaner taking care of 334 looms. Hand cleaning is used by Mr. Morris at Palmetto, the looms being cleaned when the warps run out about once a week.

Use of the new rubber-cushioned shuttle spring and the lowered middle ring on filling quills was indorsed by several members, who stated that fewer springs are broken and adjustments last longer.

Discussion of methods for storage of warps between the slasher and loom, and methods of handling them, brought out the fact that there is no standard practice. Some mills leave the warps on trucks, some stand them on end, some store them in racks, some wrap them in kraft paper, etc. Use of electric hoists and overhead trolleys was cited as one satisfactory solution of the handling question.

J. C. Platt, agent, Chicopee Mfg. Corp. of Georgia, was chosen chairman for the coming year; George E. Glenn was elected vice-chairman; Robert W. Philip continues as secretary and treasurer.

Production and Waste

Discussed at Charlotte by Piedmont Division of STA

PRODUCTION CONTROL, waste, synthetic rolls, and quills were discussed at the Charlotte, N. C., meeting of the Piedmont Division of the Southern Textile Association held last month. B. M. Bowen, superintendent of Salisbury (N. C.) Cotton Mills, presided as chairman. Guest speaker was W. M. McLaurine, secretary of the American Cotton Manufacturers Association, who addressed the group on "Foremanship."

John A. McFalls, superintendent of Entwistle Mfg. Co., No. 2, Rockingham, N. C., described in detail the method of coordinating departments in his mill. At Rockingham, he said, the mill is on colored work. When an order is received, the dyer works out his schedule and specifies when his job will be completed. This report is then carried to carder, spinner, and weaver, who, in a similar manner, estimate the length of time necessary to complete their part of the work. All of this is done before the dyeing begins, and each man retains a copy of the complete report. Specifications for warping, spooling, and spinning are also included, and used in working out the poundage for each color and allocation of spindles. Each color has a number, and the workers are trained to call the colors by their proper designation, such as "No. 220 Green." The colors are arranged so that direct dyes run in the 100's, sulphurs in the 200's, developed colors in the 300's, etc. Bins are numbered and indexed for special colors. An overseer's meeting is held every morning to check on the day's schedule of work.

N. G. Hardie, general superintendent of Chadwick-Hoskins Co., Charlotte, N. C., in discussing waste problems, said that his mill weighs its waste regularly and checks up on the amount of sweeps weekly. He recommended an inspection of the waste house at least once a week as a means of finding out what is going on in the mill. Mr. Hardie further warned against "selecting bobbins to get an average" which do not tell a true story. Mr. McFalls added that he strongly advocates a daily check on every kind of waste.

R. E. Lindsay, district service manager, Saco-Lowell Shops, Charlotte, in speaking about metallic, cork, and synthetic rolls, stated that with the new synthetic rolls, the same weight is used on all lines; e.g., the 20-lb. weight. He recommended taking 2 lb. off 22-lb. weights. Under these conditions breaking strength often increases 1 to 2 lb. Mr. Lindsay pointed out that in recent months cork manufacturers have improved cork covering by increasing pressure from 28 to 33 lb. per sq. in., which tends to close the pores of the cork and reduce lapping up.

A. W. Benoy, assistant manager of Consolidated Textile Corp., Shelby, N. C., asserted that he believes a straight-shoulder quill will reduce the chances of the bunch sliding up and stopping the loom at the change or jerking into the cloth on high-speed looms. Chairman Bowen said that he was helped greatly by the use of a quill, straight from the butt of the first ring—particularly on coarse numbers. J. L. Brannan, overseer of carding and spinning at Hermitage Cotton Mills, Camden, S. C., reported that the only way he can avoid sloughing off is to put on a long bunch, which increases the waste disproportionately. This trouble occurs only on the bunch and only on high-speed looms, which indicates that the speed of the loom has something to do with it. Frank Lockman, superintendent of Monarch Mills, Lockhart, S. C., said that this trouble could often be eliminated in the weave room, as well as in the spinning room, and recommended studying the check strap. "Too much spring on the heel spring naturally throws the quill out of the way," he remarked. H. T. Davis, assistant superintendent of Rowan Cotton Mills, No. 1, Salisbury, N. C., declared that he stopped sloughing off by adjusting the cam on his frames so that the traverse would not come to the same place each time.

Secretary Ellis Royal showed the group a paper spinning tube, which was later discussed by Mr. Lindsay. The latter mentioned two installations which have been running successfully for more than a year. Advantages of the paper tube, which has been in use in European mills for several years, is that vibration is largely eliminated at high speeds, along with wear on bobbins, bolsters, and spindles. He expects the life of the tube to be eight or ten years, and also for a development to be worked out eventually which will hold the tube on the automatic loom.

Mr. Davis described a new type clearer which he has developed to prevent wearing of roller bars. The new clearer has a brush that fits down on the ends of the rolls and holds a little oil. The brushes are longer than normal and are said to eliminate two-thirds of the regular roller picking and cleaning. The spinner can pick the clearer waste off with her fingers. Cloth under front cork rolls tends to get hard and slick; the new clearer reduces this to a minimum.

QUESTIONS & ANSWERS

Card-Sliver Tests

Technical Editor:

We are making extensive tests in the sizing of card sliver. Our results however would mean a lot more to us if we were able to compare them with other textile men's experience.

We should, therefore, like to know what you would consider a reasonable variation from a set of cards composed of the same make, constant, and general physical condition. (8657)

The accompanying table gives the results of card-sliver tests made recently in one mill. From this table it is seen that 6 consecutive yards will show a maximum variation of from 7 to 10%; 6 yd. sized at 30-min. intervals and covering 1 stripping cycle will show 17 to 27% maximum variation. This latter is really representative of actual variations in run-of-the-room card sliver, as indicated by sizings taken from 36 random cans.

Maximum variations in card sliver averaging 23% are reduced by two processes of drawing to average maximum variation of 9.1%. Variations in card sliver are long-swing variations heavy to light or vice versa, with consecutive inches showing a maximum variation of 4.1%, while consecutive yards will show a variation of 21%.

Variations in finisher drawing are short-cycle variations, with consecutive inches showing a maximum variation of 17%, while consecutive yards show a maximum variation of 9%.

Variations in card sliver are apparently due to two main causes: loading up of card after stripping and variations in picker-lap weights. Condition of card wire, if settings are uniform, has little effect on variation in sliver weight. For making the tests, the card sliver was allowed to run on the floor for 1 min. after stripping. No weighings were made until 10 min. after stripping.

CARD-SLIVER SIZING

Weight of 6 yd. (consecutive) from each card. (Standard weight 53.)

High	Low	Avg.	Maximum Variation Grs.	Maximum Variation Per Cent	Average Variation Grs.	Average Variation Per Cent
58	54	56.5	4.	7.1	1.3	2.3
52	47	49.3	5.	10.1	1.6	3.2
50	47	48.7	3.	6.1	1.0	2.5
56	52	54.	4.	7.4	1.1	2.
52	48	50.	4.	8.	1.0	2.
53	51	52.	2.	3.8	.7	1.3
53.5	49.6	51.8	3.9	7.1	1.1	2.2

Weight of 6 yd. from each card; 1-yd. samples taken at 30-min. intervals. 1 stripping period. (Standard weight 53.)

58	48.5	52.1	9.5	18.2	2.4	4.9
58	49.	52.4	9.	17.4	2.1	4.
56	46.	50.1	10.	19.9	3.1	6.2
60	46.	51.3	14.	27.3	3.7	7.2
62	51.	55.7	11.	19.8	3.1	5.6
62	48.	54.6	14.	25.6	4.1	7.5
59.3	48.1	52.7	11.3	21.3	3.1	5.9

Weight of 6 yd. from 36 randon cans, run of the room. (Standard weight 53.)

59.5	47.5	41.4	12	23.3	1.9	3.7

Finisher drawing made from above card sliver. (Standard weight 66.5)

69	63	65.8	6	9.1	1.5	2.3

	Card Sliver		Finisher Drawing	
Yard-by-yard variation	21.3% Max.	5.9% Avg.	9.1% Max.	2.3% Avg.
Inch-by-inch variation	4.1% Max.	1.5% Avg.	17.2% Max.	2.1% Avg.

Weaving Acetate Satin

Technical Editor:

Please give me a loom setting and shuttle lining for acetate satin, 195 x 72 construction, 75-den. warp and 100-den. filling. We are having trouble with the filling breaking when the cop is about two-thirds empty, or near the ferrule on shuttle-changing looms. (8647)

For weaving this type of satin you should have the whiproll set about ¼ in. higher than the warp line. Adjust the dobby so that on each pick of the loom the shed will rise evenly, but not too wide. A shed that has an opening of about 2 in. is satisfactory. Set the harnesses so that when the loom is at front center, and the reed ¼ in. away from the fell of the cloth, the shafts will be even. Do not have the harness springs too strong, and make certain every spring gives exactly the same tension. Make sure the picking of the loom is not too early; the shed should be opened sufficiently to allow the shuttle to glide through freely.

For lining shuttles we suggest use of New Zealand opossum, as it has very soft hair and is quite compact. If you cannot secure this type of fur, good results can be obtained with other types, but they must be soft and compact.

Without actually seeing your looms in operation, it is very difficult to ascertain the cause of your filling breakage. From the description given it appears likely that there is a drag in the shuttle, or the tension is not free enough, or it is jerky. A careful check of every possibility should bring to light the cause of the trouble.

Rayon Filling Trouble

Technical Editor:

The inclosed combination yarn sloughs off a great deal, and runs poorly in the loom. My problem seems to be one of spontaneous unwinding from a quill of as little as one layer, or approximately 11 in. of filling, in excess of requirements. It seems the excess filling frequently escapes through the top or bottom of our shuttles, and is damaged or cut by the ceiling of the box.

Our filling is quilled 5 winds per stroke, on 6½ in. round tubes; and run in muskrat-furred, ring-tension shuttles. One strip of fur, ⅜ in. in width is placed on each side of each shuttle. I shall appreciate any suggestions with regard to eliminating this trouble. (8636)

The yarn submitted is a tricky one to weave successfully. The hard-twist strand will take heavy tensioning but will cut the tension and posts and rings, thus causing the untwisted strand to chafe and some of the filaments to split. Therefore, it is necessary to tension the filling with fur, having but light tension on the ring.

It appears that your assumption that yarn is left in a loose state inside the shuttles is correct. As the shuttle is picked out of the box, this yarn comes between the box ceiling and the shuttle, resulting in bruising or cutting of the yarn. At times, the spot at which the filling is rubbed against the shuttle will

show. If the trouble is encountered on but one shuttle, rubbing the spot down slightly will overcome it. If the trouble seems to be general, it is best overcome by furring shuttles, as described below.

Cut fur so it will reach from bottom to near the top of the shuttle wall. On the back wall, fur should reach from the tube clip to ¼ in. in front of the tube tip. On the front wall the fur should reach from the detector slot to the front end. Clip off all long hairs so the yarn will not twist on to them. Clip off excess fur which might be pulled into the front bead. Tension of the ring should be arranged so that there is a smooth, even pull from a tube from which approximately three-quarters of the yarn has been removed.

Another method, preferred by some, is to cut fur full width, to reach to the exact tube tip. This prevents yarn from escaping from the bottom. Next, cut a ⅛ in. strip of thick fur to be glued along the top inside edge of the walls and to reach from the tube tip on one side around the wall and to the tube tip on the opposite side. This prevents yarn from flying out of the top of the shuttle.

We would also suggest that you make a test of 3-wind quilling. If this shows no undue strain on the yarn when unwinding from the tube bases, 3-wind will be of assistance in obtaining the desired results. Another suggestion would be that you try opossum skin in place of muskrat, since the latter loses its tensioning qualities in a short time on heavy yarn.

Don't Weight Silk Thread

Technical Editor:

Can thrown silk which has been weighted be successfully employed as sewing thread, in the sewing of men's clothing? It may aid in your findings, to take into consideration that the sewing thread is not directly exposed to friction or wear, because it is substantially covered and protected from exposure to the elements by the worsted cloth which houses it. (8667)

Thrown silk which has been weighted is not successfully employed as sewing thread. In the first place, unweighted silk stands up better. Weighting does not help the tensile strength or the elasticity in any way, and the weighting material always causes more or less abrasion in the needle, actually injuring the silk in the stitching process and producing a seam not to be compared to one produced with unweighted silk. Again, no one likes to dye weighted silk in skeins or packages, because of various troubles which may occur.

You state that the silk is hidden in the fabric. In that case there is no need to use silk at all, because a high-grade mercerized cotton thread would be better. Another point that should not be overlooked is that the method for testing now generally used is to multiply the thread size by the break. Clothing manufacturers using this test would immediately detect the low strength of the weighted silk thread, as compared to unweighted silk thread, and refuse to buy it.

Colored Specks in Knit Fabrics

Technical Editor:

We are sending you a sample of a bleached fabric which contains specks. These specks are more prevalent in bleached goods than in dyed goods. However, we have found them in the gray goods prior to bleaching. They occur in blue, pink, red, yellow, brown, and black shades; however, generally they occur in blue, pink, or red shades. It doesn't occur to us that the specks could be caused by fly since we do not handle any raw-dyed stock. However, we do manufacture our labels from rayon, silk, and mercerized filling in red and blue shades. Please tell us the cause of this trouble. (8678)

The specks in this fabric may be due to small colored rayon fibers being wrapped around the knitting yarn. This may happen on either winding frames or knitting machines, if colored yarn is used on or near these machines.

It is also possible that the drug room wherein the dyestuffs are stored is in such a position that some of the dust from the dyestuffs being weighed out, or carried through the dyehouse or bleach room, gets into the air and the small particles of dyestuff settle down on the wet fabric and then start to dissolve. As a precautionary measure we would suggest that all dyestuffs be dissolved in the drug room and no dry dyestuffs be brought into the room where any fabric is handled.

Holes in Football Jerseys

Technical Editor:

We have been having a great deal of trouble with some of our football jerseys, in which small holes have appeared after the jersey has been used only once or twice. We are inclosing herewith one of the jerseys which has been used for only part of a season and also a few samples of the knitted fabric from which the jerseys are made. We shall appreciate any information that you can give us as to the cause of this trouble. (8660)

The fact that the jersey submitted has been used part of a season indicates that it may have had hard use and was probably subjected to severe strains and pulls which caused any weakened yarns to break, thus resulting in holes and runs. However, we are of the opinion that at certain places in the fabric the yarn was weakened (and in a few places actually cut) by a few rough needles. This could be considered a contributary cause of the holes. Examination of the shoulder yoke discloses that nearly all of the holes occur in the same few wales.

In raveling out the fabric above the holes, we find a certain point in each course where the yarn breaks when pulled. Going back to the fabric at this point, we note that there is a distortion in the wale and an imperfectly formed stitch. This is more readily seen when the fabric is held up to a strong light. A hard pull at the points where this distortion occurs causes a dropstitch or a run if the thread is weak enough to break.

The jersey is very dusty and dirty and in places contains lime or whitewash. This might cause the yarn to be weakened and help it to break when suddenly strained. We find more knots, distorted stitches, and frayed yarn in the shoulder yoke than in the body of the garment or in the unfabricated cloth. We are inclined to believe that this shoulder yoke was fashioned from a piece of cloth that was not so well knit as the body of the garment, and suggest that the shoulder yoke be made of a double thickness, as have the elbows.

Use of more lubricant on the stock prior to spinning or use of an oil or emulsion on the yarn while being coned might assist the yarn to glide over a rough needle and lessen the danger from fraying. Obviously, however, the needles must be kept in a good state of smoothness if damage to the yarn is to be avoided.

Mohair Stock Stained

Technical Editor:

Inclosed is a small sample of mohair raw stock. This sample has on it a slight green stain of a type we seem to run up against through our blends in bunches. We are unable to scour this out in our wool washer, using a good grade of chip soap and soda ash. Can you tell us what this stain is and what will remove it? (8644)

We have been unable definitely to identify the stain on the stock submitted, or successfully to effect complete removal of the stain. This stain appears to be an organic stain similar to a urine stain affected by the food the animal has eaten. The stain resists scouring with soaps and alkalis as well as with several types of surface-active chemicals on the market for this purpose. Best results, although they are far from perfect, will probably be obtained by a complete scour followed by a treatment with potassium permanganate. This turns the stain nearly black, and is followed by rinsing and then treatment with sodium bisulfite and oxalic acid.

STAPLE COTTON FABRICS

By JOHN HOYE
Fabric Technician with W. Harris Thurston, New York

This forty-seventh installment of Mr. Hoye's series of articles on staple cotton fabrics—which began in the January, 1936, issue—continues the discussion of upholstery fabrics.

Rayon and cotton tapestry, 54 in., 120x38, 0.94 yd., 3 warps and 3 fillings

Upholstery Fabrics

MATELASSE, which has a quilted or padded texture, is a double fabric, stitched together in weaving. The face or top fabric usually has fine warp and filling yarns. The back or bottom fabric has a fine warp and coarse filling.

Wherever the coarse filling yarn interlaces with the top fabric, it causes the remaining portions of the top fabric to be puckered, and thus gives the cloth its matelassé or quilted character. Matelassé is made with mercerized ply-yarn warp and both rayon and heavy cotton ply-yarn filling. Also, it is made with all-rayon warp.

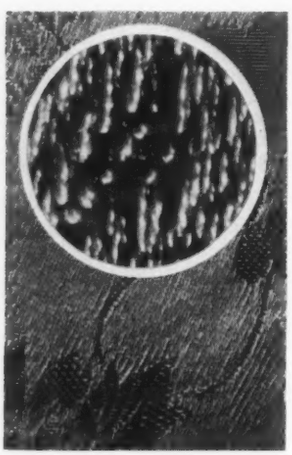
Warp yarns: 50/2 to 100/2 mercerized, and 150- to 300-den. rayon. *Filling yarns:* 5/2 to 20/2 ordinary cotton, and 150- to 300-den. rayon.

Examples of matelassé:

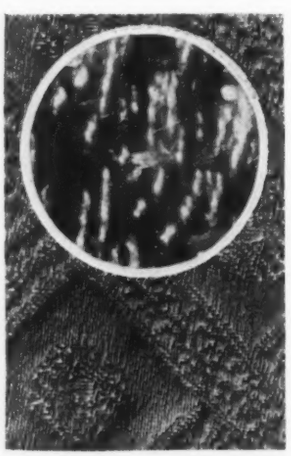
54 in. 168x60 1.32 yd. 2-ply mercerized warp, and rayon and heavy cotton ply-yarn filling.

54 in. 92x54 1.52 yd. rayon warp, and rayon and heavy cotton filling.

BROCADE, which is a multicolored fabric similar to damask, is made with a higher count and finer yarns and has small floral designs which are slightly raised. Mercerized warp and rayon filling are used. Coloring of flower petals, leaves, and other decorations is obtained by use of two or three extra, different colored fillings or a warp of various colors. Satin weaves are used. Satin floats on a rib or satin ground form the design.

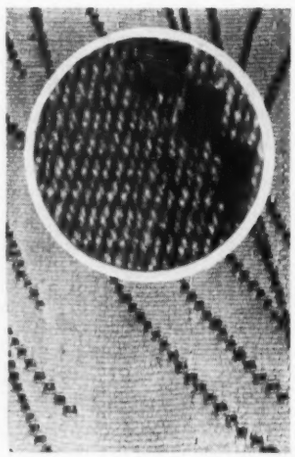


Brocade, 54 in., 184x90, 1.58 yd., mercerized ply warp and multi-color rayon filling



Brocatelle, 50 in., 128x92, 1.07 yd., mercerized ply warp and silk and linen fillings

Warp yarns: 60/2 to 100/2 mercerized and 13/15 to 20/22 den. 2-thread organzine silk. *Filling yarns:* 150- to 300-den. rayon.



Matelassé, 54 in., 168x60, 1.32 yd., mercerized ply warp and rayon and heavy cotton ply filling

Examples of brocade:

54 in. 184x90 1.58 yd. mercerized ply-yarn warp and multicolor rayon filling.

50 in. 200x144 1.70 yd.

BROCATELLE comprises a group of fabrics, generally expensive, which have a firm texture, a high yarn count, and a distinctive puffed pattern on the face. These fabrics are made with a silk, rayon, or cotton face; and a cotton or rayon filling ground, and, sometimes, a linen filling back. The best qualities are made with a silk face. The pattern, a characteristic blistered or puffed appearance, is formed by warp satin floats which stand out noticeably from the ground, because of the stiff linen filling yarn used for the body or back of the cloth.

Warp yarns: 60/2 to 120/2 mercerized 13/15 to 20/22 den. 2-thread organzine silk, and 150- to 300-den. rayon. *Filling yarns:* 8/2 to 20/2 cotton, 10- to 18-lea linen, 8- to 12-thread 20/22 den. tram silk, and 150- to 300-den. rayon.

Example of brocatelle:

54-in. 168x80 0.97 yd. mercerized ply-yarn warp, and rayon and heavy cotton ply-yarn filling.

The illustration shown for tapestry in the last installment was actually matelassé. The correct illustrations for both tapestry and matelassé are shown on this page.—*Editor.*

COTTON SECTION—Chapter VII—Continued

By IVAR MOBERG

Warp Stop-Motions

SLIDING-BAR warp stop-motions are a comparatively recently developed type. They are very sensitive and, if properly adjusted, will knock off the loom with only a piece of ordinary writing paper between the feeler bars.

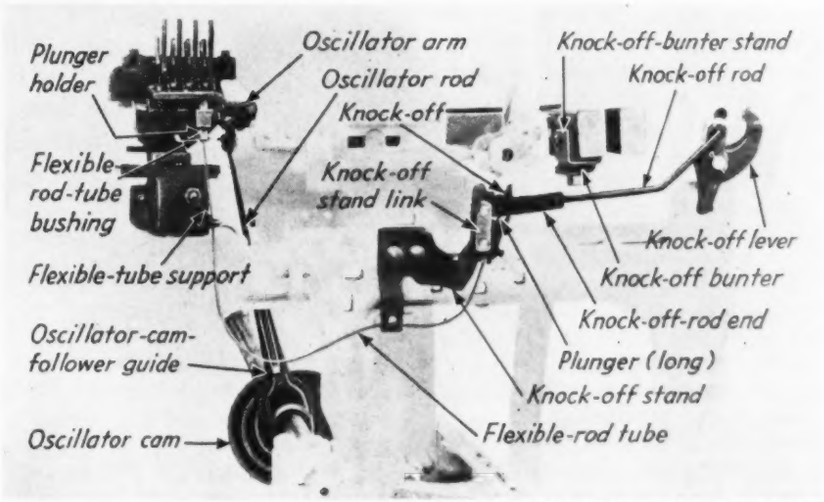
The action of a sliding-bar warp stop-motion is as follows: A toothed, oscillating feeler bar moves back and forth between a pair of toothed stationary feeler bars. The oscillating movement is negative and will be stopped by a drop wire which falls between the teeth. Stopping the feeler-bar movement results in a plunger pressure, which raises a knock-off in the path of a bunter on the lay, and the loom is stopped.

The setting and timing of this motion is relatively simple. It is best accomplished by setting everything from the center position. Fig. C61 shows the head or driving end and a portion of the feeler bars.

As noted before, the following instructions relate to the reconditioning of old stop motions, but can be applied to new motions merely by ignoring steps which are unnecessary in such cases.

Remove all feeler-bar holders and wash them in kerosene, taking care that any lint which has collected between the feeler-bar holders is thoroughly removed. Bars must always be handled with care, so that they will not be bent or injured. After cleaning, with the stop-motion parallel to the lay, level it at the required height and distance from the reed. If these are not known, locate the motion temporarily in the approximate position and relocate it after a warp is in the loom. Different fabrics require different locations but, in any case, the top of the warp supports should always be level with the top of the whiproll.

Guard against the whiproll being so high that the drop wires will be forced up against the lower edges of the feeler-bars by the tension of the warp ends. There should be a clearance of at least $\frac{1}{16}$ in. between the lower end of the feeler-bar slots in the drop wires and the lower edges of the feeler-bars. This adjustment is made by lowering the whiproll and/or raising the warp stop-motion. On some motions of later types, the feeler-bars can be raised independently of the rest of the motion to obtain the above mentioned clearance. However, in the writer's opinion, it is better to raise the whole stop-motion than to increase the distance between the warp support and the feeler-bars, since it helps to preserve the compactness and firmness of the stop-motion. Some of the later types of sliding-bar warp stop-motions are equipped with tilting feeler-bar ends by means of which the stop-motion can be tilted toward the front of the loom.



Illustrations Copyright 1932, Draper Corp., Hopedale, Mass.

Fig. C62. Knock-off used in connection with sliding-bar warp stop-motion

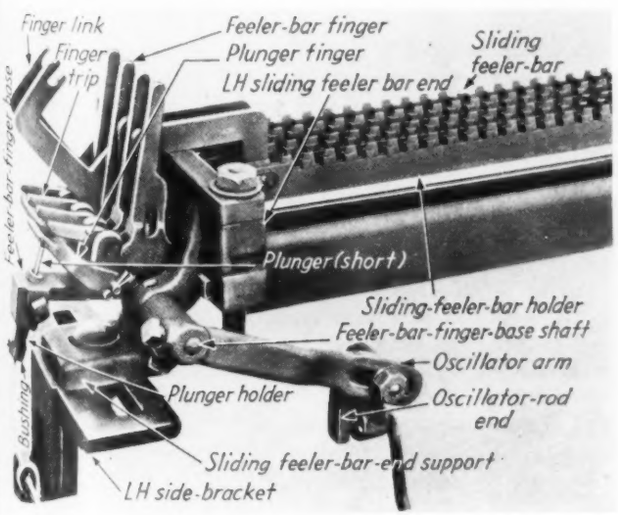


Fig. C61. Sliding-bar warp stop-motion

Replace the feeler-bar holders and line up recesses in the ends of the bars so that the feeler-bar end-caps can be bolted into place. Move the sliding feeler-bars back and forth by hand, to make sure they do not bind.

With the shipper handle in on position, adjust the length of the knock-off rod, Fig. C62, until the knock-off-stand link is in vertical position, or a trifle beyond. Raise or lower the knock-off stand until the knock-off-rod end just clears the bunter, with the lay at back center.

Knock the shipper handle into off position, loosen the capscrew in the knock-off-bunter stand, and advance or retard the knock-off bunter until it is at least $\frac{1}{8}$ in. from the raised knock-off. If this position of the knock-off bunter can not be obtained, due to the limit of the slot, the position of the knock-off stand and the length of the knock-off rod must be readjusted. The position should be obtained without going to either limit of its adjustment.

Place the oscillator-rod-end stud in the center of the slot in the oscillator arm and loosen the setscrew in the hub of the oscillator arm. Turn the oscillator cam on the camshaft until the cam follower is on the highest point of the cam, and adjust the length of the oscillator-rod so that the highest point of the oscillator-rod will not be above the top of the warp-support rods.

Another way by which the length of the oscillator rod can be adjusted is to turn the oscillator cam on the camshaft until the cam follower is at the center of its motion, as determined by the guide notch in the cam, and adjust the length of the oscillator-rod so that its upper end is flush with the bottom of the front warp-support.

With a shuttle in the right-hand box, and the lay at extreme back center, turn the oscillator cam on the camshaft until the cam follower is in the center of its movement and the guide notch in the cam coincides with the center of the oscillator rod. Tighten the cam in this position.

Attach the feeler-bar links to the sliding feeler-bars and move the feeler-bar fingers until the teeth of the sliding feeler-bars will be exactly between the teeth of the sliding feeler-bar holders. The feeler-bar fingers should now be in vertical position and each feeler-bar-link stud in the center of the slot in the holder. Tighten the setscrews in the hub of the oscillator arm in this position.

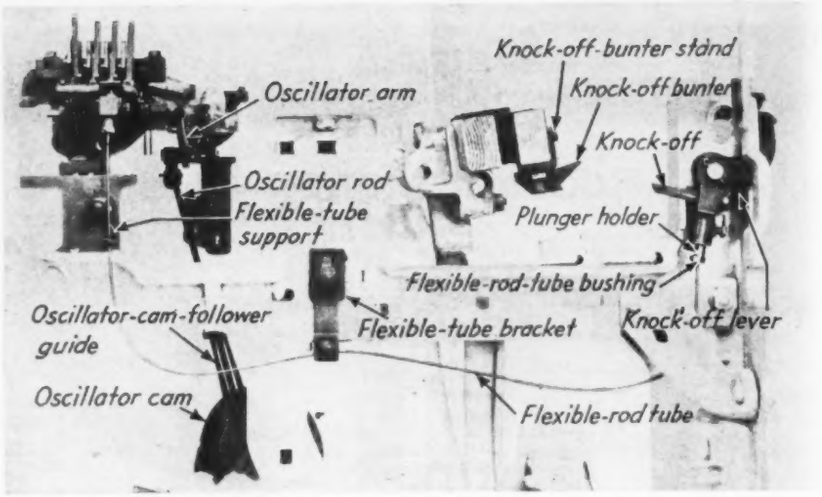


Fig. C63. Knock-off used on belt-driven looms

Insert the flexible-rod-tube bushing in the feeler-bar-finger case and push it through until the plunger raises the plunger finger into contact with the feeler-bar-finger trips. In this position tighten the setscrews in the finger base. Insert the other end of the flexible-rod tube into the knock-off stand and push the bushing through until the plunger raises the knock-off flush with the upper surface of the knock-off-rod end. Tighten the setscrew to hold the bushing in this position.

Fig. C63 shows a knock-off arrangement used in connection with fast and loose pulley loom drive. This knocks off the loom at front center, and compensates for the slower stop resulting from the fact that the belt must move from fast to loose pulley. The setting of the stop-motion itself is identical with that of back-center knock-off motions but the setting of the knock-off is somewhat different. This will be described in an early issue.

WOOL SECTION—Chapter VIII—(Continued)

By BENJAMIN F. HAYES

Picking Motions

ADJUSTING THE SHUTTLE BOXES of heavy looms so that the picker race of the boxes will be even with that of the lay end was described in the installment published in our September issue. On intermediate looms the same procedure may be used; however, in practice, loomfixers usually remove both shuttle box and box-lifting rod from the loom, since the lifting rod is screwed into the casting which is fastened to the underside of the bottom box. The loomfixer then bends the box-lifting rod, pressing it toward either the near or far end of the box, depending on which end of the box it is desired to raise.

If the operation is carefully carried out, the lifting rod will not be made crooked. As a matter of fact, every time one of these rods is removed from a loom the loomfixer should examine it closely to make sure it is not crooked. It is well at such times also to check the rods for smoothness. The rods must be kept smooth if they are to operate properly, and the springs through which the rods pass have a tendency to wear dents in the rods if they are not oiled occasionally.

So far, this discussion has concerned shuttle tips which contact pickers either higher or lower than correct setting would indicate. Another similar difficulty which is sometimes encountered is that the point of contact may be too near the front or back of the picker's face. Looms which are allowed to run in this condition are very wasteful of pickers.

If the pickers on all the looms in operation contact in this manner, the pickers in use are too small, and a change to the correct size should be made. However, if such defective operation is noticed on only one or two looms, an investigation must be made to determine why the shuttles are not contacting the pickers at the centers of the picker faces.

As an example of causes of such a condition, it may be found that the outside picker-spindle bracket has been packed away from its regular position. Or, the outside box-guide may have been packed in such a manner as to throw the shuttle box away from the lay end.

Both these practices are engaged in by some loomfixers as means of overcoming imperfect alignment of lay ends. About the only thing in their favor is that they are quick repairs; but they are also very wasteful methods and should not, therefore, be indulged in. If lay ends are correctly aligned, it should not be necessary to pack the outside spindle-bracket away from its regular position, unless the bracket itself is a misfit. Packing of box guides is likewise unnecessary.

Oiling of pickers is most important if maximum operating efficiency is to be obtained. Yet often this is overlooked, even by weavers of long experience. Oil should be applied to the point at which pickers and picker sticks contact each other, as there is considerable friction here. Increased life of both pickers and sticks will result from close attention to this detail.

NEWS ABOUT MEN

Research Institute Faces Facts

A realistic viewpoint of its future was taken by the U. S. Institute for Textile Research at its annual meeting Nov. 2. The directors' report included the following frank statement: "Your board feels that at the completion of the tenth year of the Institute we should be able to justify our existence in some more tangible way than has been the case up to the present. If we fail to render services valuable enough to the industry to justify their supporting our work, it is the feeling of the board that the whole question of our existence should then be re-examined and appropriate action taken." A similar attitude was expressed by E. H. Killheffer, president, in his address.

At that session, there was an interesting symposium on research being conducted by both the Textile Foundation and the Institute. Speakers included Franklin W. Hobbs, chairman of the Foundation; Robert E. Rose, chairman of the Foundation's Advisory Committee on Scientific Research; Fessenden S. Blanchard, member of the Foundation's Advisory Committee on Economic Research; W. D. Appel, chairman of the Institute's Research Council, and Albert C. Walker, chairman of the Institute's Administrative Committee for the Drying Research.

An open conference on wool processing was led by Dr. Milton Harris, Werner Von Bergen, and R. A. Lukens who discussed the problem from the viewpoint of the chemist, the physicist, and the manufacturer, respectively. Mr. Lukens proposed a cooperative study of wool scouring, carbonizing, dyeing, fulling, etc., for the purpose of collecting, collating, and making available data on these processes, and developing further information on the conditions which should be maintained to avoid damage to the fiber. It was generally agreed by those attending the conference that research on the subject is necessary and should be undertaken under the auspices of the Institute, provided financial support for the project can be obtained.

Officers and executive committee were re-elected as follows: president, E. H. Killheffer; vice-presidents, Louis A. Olney and Edward R. Schwarz; treasurer, Ernest N. Hood; executive committee, John Bancroft, Jr., Earl Constantine, Alban Eavenson, Ernest N. Hood, Robert E. Rose, Edward R. Schwarz, Douglas G. Woolf and the president and chairman of the Research Council ex-officio. Two new directors were elected: Russell T. Fisher, president of the National Association of Cotton Manufacturers, and Wm. M. McLaurine, secretary of the American Cotton Manufacturers Association.

Cotton Crop Estimate

Government estimate places cotton crop at 11,845,000 bales, based on condition as of Nov. 1. This is 83,000 below the Oct. 1 estimate.

Coordination At Its Peak

The highest form of coordination among groups, thus far achieved in the textile industry, was again manifested at the meeting of executives of various textile associations held prior to the annual meeting of the Cotton-Textile Institute. These associations were all groups which are related directly or indirectly to the cotton, rayon, silk and finishing divisions.

Presided over by Dr. Claudius T. Murchison, president of the Institute, the meeting developed most constructive and far-sighted discussion of broad policies necessary in the industry to continue and preserve the present favorable situation.

The value which those present attached to this type of meeting was evidenced by their request that it be held more frequently—probably quarterly.

Several association executives from the South were unable to attend because of a conflicting meeting in that section. Those who were present, in addition to Dr. Murchison, included: Russell T. Fisher, president, National Association of Cotton Manufacturers; W. Ray Bell, president, Association of Cotton Textile Merchants of New York; J. Harold Lineberger, president, Southern Combed Yarn Spinners Association; Mildred G. Barnwell, executive secretary, Southern Combed Yarn Spinners Association; Irene L. Blunt, secretary, National Federation of Textiles, Inc.; Alice C. Moore, secretary, National Association of Finishers of Textile Fabrics; Dean Hill, president Mercerizers Association of America; Frank E. Slack, president, Association of Cotton Yarn Distributors; W. P. Fickett, president, Textile Fabrics Association;

Harris & Ewing

Conference between representatives of wool growers, wool manufacturers and distributors and officials of the government was held in Washington, D. C., Oct. 16. Special attention was given to the foreign situation. Above are shown the following among those attending: (Seated left to right) H. Clyde Moore, president, Boston Wool Trade Association; Robert N. Dana of Draper & Co.; Richard V. Gilbert, Chief of Industrial Economic Division, Department of Commerce; Carroll Wilson, special advisor to Secretary Hopkins; Edward Pickard, chief, Textile Division, Department of Commerce; Harold R. Young, National Retail Drygoods Association; Ralph Goldsmith, National Retail Drygoods Association; Herbert Gutterson, president, Institute of Carpet Manufacturers of America; (Standing left to right) Herbert K. Webb, former president, National Wool Trade Association; Russell Harris, American Woolen Co.; James M. Coon, Farm Credit Administration; Louis C. Connor, wool specialist of U. S. Tariff Commission; C. B. Rockwell, National Association of Wool Manufacturers; Byron J. Wilson, secretary, Wyoming Wool Growers Association; F. R. Marshall, secretary, National Wool Growers Association; Dudley P. K. Wood, special advisor to Secretary Hopkins; Nathaniel H. Engle, assistant director, Bureau of Foreign and Domestic Commerce; J. N. Fuqua, Division of Trade Agreements, Department of State; G. W. Cunningham, secretary, Texas Sheep and Goat Raisers; L. A. Wheeler, Department of Agriculture; William W. Carman, Jr., assistant chief, Textile Division; E. S. Haskell, Commodity Exchange Administration. Among others who attended were Lewis A. Hird, Samuel Hird & Sons; Curt Forstmann, Forstmann Woolen Co.; Dr. N. H. Engle, Bureau of Foreign and Domestic Commerce; C. E. Kinney, Bureau of Census; Mark A. Smith, Tariff Commission; George Willingmyre, Treasury Department.

Wilwyn Herbert, secretary, Narrow Fabrics Institute; H. R. Giblin, executive secretary, American Lace Manufacturers Association; David Snyder, executive director and secretary, Cotton Thread Institute; E. O. Fitzsimons, secretary, Carded Yarn Group; R. F. Howell, secretary, Narrow Sheetings Group; Paul B. Halstead, secretary, Cotton-Textile Institute, Inc.; L. F. Sawyer, field representative, Cotton-Textile Institute, Inc.

To Honor "Modern Pioneers"

Several textile manufacturers are among the members of the National Modern Pioneers Committee appointed by the National Association of Manufacturers to sponsor a search for the nation's outstanding inventors and research workers who will be honored in connection with the observance of the 150th anniversary of the American Patent System.

Among the members of the committee of more than 80 leading industrialists are: A. C. Ackerman, president, Ackshand Knitting Co., Ballston Spa, New York; P. H. Hanes, president, P. H. Hanes Knitting Co., Winston-Salem, N. C.; Hiram S. Rivitz, president, Industrial Rayon Corp., Cleveland, Ohio; and Wm. S. Walker, president, Harriman (Tenn.) Hosiery Mills.

Harris & Ewing

A testing device to rate the snag resistance of hosiery has been developed after five years' experimentation by E. Max Schenke and Howard E. Shearer, research associates of the National Association of Hosiery Manufacturers in cooperation with the National Bureau of Standards, Washington, D. C. Above is shown Mr. Schenke in the act of operating the device by drawing it over the surface of the hosiery under test. Patents are being taken out which will be U. S. government property and may be used by manufacturers without royalty costs.

Nylon Hosiery Placed on Sale

The first public sale of Nylon hosiery took place in several Wilmington, Del., retail stores commencing Oct. 24. The sale was restricted to that city because of the extremely small supply of Nylon yarn available from the experimental pilot plant there. It was preliminary to nation-wide introduction in 1940 by hosiery manufacturers.

E. I. du Pont de Nemours & Co., manufacturers of rayon, stated that these over-the-counter sales culminated extensive experimental work in cooperation with the hosiery industry.

Three types were offered: 45 gage at $1.15 per pr., 48 gage at $1.25, and 51 gage at $1.35. The stockings carried no brand names.

The stampede to buy the hosiery in the early days of the sale testified to the dramatic interest in this new fiber.

Senate Wool Marketing Probe Ends

The three-year investigation of wool marketing practices under a Senate committee, headed by Senator Adams of Colorado, concluded its hearings with a three day session Oct. 23, 24 and 25. In general investigators for the Government alleged that wool growers were burdened with sales commissions and that shrinkage calculations were generally to their disadvantage. Wool distributors countered with charges that the examples instanced were the exception rather than the rule.

In closing it was recommended to the committee by its investigators that legislation be enacted by Congress providing the following:

1. Licensing of all persons dealing in wool in their own interest and all wool brokers and manufacturers.

2. Compulsory segregation in handling of wool on consignment and of speculative wool purchases by dealers because of the "inherent conflict of interest."

3. Empower Department of Agriculture to require the use of official grades and standards.

4. Require the reporting of all wool sales to Department of Agriculture.

5. Compel dealers to keep uniform records to reflect all details of wool transactions.

"The fish struck. I let the line run out freely for a sufficient time and then set the hook. Instantly up came the fish dancing around on his tail trying to throw the hook. After about four jumps he adopted different tactics and began to sound and run . . . It took one hour and a quarter to bring him into the boat . . ." So Dr. Elvin H. Killheffer, of E. I. du Pont de Nemours & Co. describes his experience with a 7 ft. 7 in. sailfish, weighing 69 lb., which he caught in the Gulf Stream off Florida, on a 24-lb. waterproofed Nylon line. On the same trip, Dr. Killheffer used Nylon lines for catching bluefish, trout, dolphin, and other surface-feeding fish. Nylon lines are smaller in diameter and lighter in weight than linen lines of the same strength, and much more elastic. In fact, according to Dr. Killheffer, "It stretches noticeably and made one wonder, when the fish jumped clear of the water, if he might snap back in your face."

6. Permit Department of Agriculture to make an impartial and unbiased appraisal of consigned wool when requested to do so by the grower-consignor.

Surcharges on Textile Contracts

Mills will individually work out surcharge adjustments on textile contracts affected by the increase in minimum wages which went into effect Oct. 24, the Industry Committee of the Association of Cotton Textile Merchants of New York recommended in a statement issued prior to that date.

Stating that "Price adjustments are undeniably warranted as contract obligations for any mill which might be

affected," the committee pointed out however that uniform differentials are neither practicable nor possible and expressed the belief that price adjustments must be worked out by each mill individually.

"On two previous occasions," the committee concluded, "this industry has been required by Government fiat to change the prices of its outstanding contracts. On each occasion the infinite complications and countless irritations created were adjusted and composed in a spirit of fairness and good will. We have confidence that this will be true again, that no seller will take advantage of this situation to charge one penny more than he has been forced to pay and that no buyer will take exception to variations in charges which by their nature must vary between separate mills."

The statement was presented for the committee by W. Ray Bell, president.

D-13 Holds Fall Meeting

Committee D-13 of A.S.T.M. and its many sub-committees, met in New York Oct. 18 to 20, conferred upon numerous standards and crystallized action upon them at the final general session on the last day. Sub-committees on the following subjects reported: Rayon and rayon fabrics, presentation and interpretation of data, glass fiber, tire fabrics, woolen and worsted yarns, wool, household and garment fabrics, woolen and worsted fabrics, methods, felt, nomenclature and definitions, pile floor coverings, asbestos, atmospheric conditions, machines, heavy cotton fabrics, rayon staple and spun rayon yarns and rayon fabric generic names.

Herbert J. Ball, chairman, called attention to the next meeting scheduled for March at Charlotte, N. C., at which the following subjects will be covered: Cotton, spun rayon and fabrics, finishing, some specific research job on testing and an exposition of the D-13 book of standards. The annual meeting will be held next June in Atlantic City.

TEXTILE CALENDAR

National Association of Woolen & Worsted Overseers, 56th annual meeting, Hotel Manger, Boston, Nov. 11, 1939.

17th Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 4, to 9, 1939.

Hosiery Industry Conference, fourth annual meeting under auspices of four associations, Waldorf-Astoria Hotel, New York, Jan. 17 and 18, 1940.

Sixth International Heating and Ventilating Exposition, Lakeside Hall, Cleveland, Ohio, Jan. 22 to 26, 1940.

Knitting Arts Exposition, 36th annual exhibit, Commercial Museum, Philadelphia, Apr. 15 to 18, 1940.

TEXTILE MILL SIDELIGHTS—No. 11

"It's my grandmother—She's teaching us a new stitch."

Among the Month's Speakers

George Sloan, former president of the Cotton-Textile Institute, presented the following constructive message to the Associated Industries of Alabama, in Birmingham, Oct. 27. "I cannot be sympathetic with those disheartened individuals who take the position that our economic frontiers are gone. That sort of reasoning has not the slightest semblance of soundness. In short, homely vernacular—it is the bunk. In every branch of our industrial life, technology opens new horizons daily which beckon to the pioneering spirit."

W. O. Jelleme, marketing division, Pacific Mills, discussing control of inventory before the Tanners' Council of America, Chicago, Oct. 20, concluded: "Just as no company can secure a coordinated financial position which does not place its financial responsibility in the hands of one executive, so I believe that no company can operate with a minimum use of working capital in its inventories without placing that responsibility clearly, setting up the necessary information on which to make decisions and then giving the authority to carry them out."

Public Relations Honor Roll

Among the outstanding public relations jobs in the industry during the last month were:

McCampbell & Co., Inc., New York, in a paid advertisement, paid a tribute to the mill workers. "Theirs are the hearts and hands that spin and weave into gray goods the elemental qualities; theirs the care in spinning and skill in weaving that produce fine texture," the statement declared. "This has long been recognized and respected by the mills for which it is our privilege to act as selling agents. Human relations with these mills is not a sentimentality but next-door neighborliness."

American Woolen Co., in an advertisement signed by Moses Pendleton, president, made a constructive analysis of the situation in the wool market and pointed out certain vital facts which the company's customers should consider.

Wm. L. Barrell Co., Inc., New York, pointed out that in 1919 America had 36,000,000 cotton spindles and in 1939 only 26,000,000, of which it has been

running 22,000,000. The statement pointed out that "The present situation is such as to suggest moderation all along the line, to keep on an even keel, to avoid yielding to those impulses which encourage speculation—in others or in ourselves."

A. G. Myers Heads N. C. Manufacturers

Albert G. Myers, receiver of Textiles-Inc., Gastonia, N. C., was elected president of the North Carolina Cotton Manufacturers Association at the annual convention in Pinehurst Nov. 3, succeeding J. Harvey White. Luther Hodges, general manager, Marshall Field & Co., Manufacturing Division, Spray, N. C., was elected first vice-president, and W. H. Entwistle, of Entwistle Mfg. Co., Rockingham, N. C., was named second vice-president. Subsequently it was announced that Mr. Hodges was unable to serve. The vacancy thus created will be filled by the board of directors.

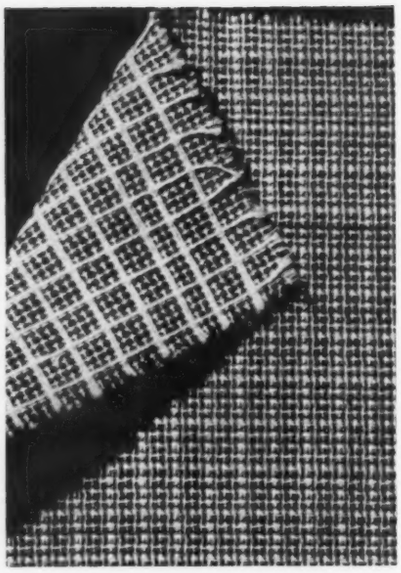
Features of the meeting included addresses by Mr. White, the retiring president, and by Dr. Wm. P. Jacobs, executive vice-president of the Cotton Manufacturers Association of South Carolina. Details of the meeting will be given in next month's issue of TEXTILE WORLD.

Thread Institute Holds Annual Meeting

At the annual meeting of the Cotton Thread Institute, Oct. 26, all officers were re-elected. Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, and Arthur D. Whiteside, president of Dun & Bradstreet, Inc., were among the speakers. The officers included Josef Pollack, of Max Pollack & Co., chairman; C. E. Chaffin, of Bay State Thread Works, treasurer; David Snyder, executive director.

Cotton Chopper and Cultivator

H. S. Dale, Jackson, Miss., cotton buyer and farmer, has recently invented a cotton chopper and cultivator, and plans are under way to place the invention on the market. Mr. Dale has been notified by the U. S. Patent Office that the machine is patentable and he intends to market it at a price within the pocketbook range of the average small farmer. The cultivator, he says, will work perfectly under all conditions. It averages seven acres per day chopped and cultivated, compared to one acre per day done by hand. Mr. Dale estimated that $150 can be saved per year on a two-acre farm by the use of this machine.



The latest in air-conditioned fabrics—the above shirting, made by Taber Mills, New Bedford, Mass., is a patented construction designed to give comfort to the wearer. The back of the fabric carries a net-like structure made of mercerized yarn for enhanced absorptive power, while the face may be of any desired shirting construction. The backing prevents the fabric from clinging to the skin, while at the same time absorbs perspiration and passes it gradually to the face fabric for evaporation. It is said that shirts of this material may be worn without undershirts with no loss of comfort.

The combination chopper and cultivator is mounted on tractor tires pulled by two mules. It is guided from the rear by only one person. A series of revolving blades chop the cotton close to the soil. They are regulated by a runner on each side. The machine is so regulated that while the blade chops one stalk of cotton it does not destroy the foliage of the cotton on the next hill. The machine has been exhibited at the Mississippi State Fair this past month, and takes us a step farther in the mechanization of cotton cultivation.

Staple Fiber Uses Increasing

Although there is a hesitancy in the trade to say flatly that the sharp increase in the price of wool will result in greater use of staple fiber in fabrics of the wool type, the trend will doubtless be in that direction. For example, Nashua is now making an attractive blanket 80% rayon and 20% wool. A flannel of 65% staple and 35% wool is said to have met with consumer approval. In the men's wear field it is still doubtful that much change will be found in standard clothing fabrics for 1940, but doubtless the progress made by spun rayon in summer-weight lines will go forward on a larger scale. The use of the staple in sports fabrics, slacks, fancy shirtings, etc., is less impeded because the fabrics are new and have no legendary background as to what they should be made from. Men's pajamas of spun rayon fabrics will be offered in many of the stores as featured Christmas gift merchandise, and it is believed they will make considerable gains in volume next season. Market students have lately found rayon in the hand-woven wool ties which have become one of the typical products of our Southwest. And so it goes . . .

Whipcords Lead in Automobile Upholstery

Visitors at the recent automobile show in New York report that fully 80 to 85% of the fabrics used for closed-car upholstery were of the whipcord type. For plain interiors there was extensive use of broadcloth, and pile fabrics were notable by their absence. A number of makers showed novel weaves for their upholstery, several being of figured or herringbone type.

To Discuss Spun Rayon

At the annual meeting of the Textile Division, American Society of Mechanical Engineers, to be held Wednesday, Dec. 6, at the Bellevue Stratford Hotel, Philadelphia, the following papers will be presented: "Spinning of Spun Rayon Yarn," by Carl D. Brandt, Whitin Machine Works; "Weaving of Spun Rayon Fabrics," by Albert Palmer, Crompton & Knowles Loom Works; "Finishing of Spun Rayon Fabrics," Dr. Harold DeWitt Smith, A. M. Tenney Associates; "Engineering Aspects of Cutting-Up Trade," A. C. Abrahams, Philadelphia; "Testing the Stiffness of Yarns and Twines," by Donald C. Scott, Ludlow, Mass.; and "Testing the Factors Influencing the Design, Selection, Operation, and Maintenance of Machinery Used in the Application of Fast Dyes to Cellulosic Fibers," by O. W. Clark, Calco Chemical Co.

Cuprammonium Fibers for Carpets and Rugs

Development of a cuprammonium fiber which is said to be particularly suitable for use as a pile yarn in carpets and rugs has been announced recently by Henry C. Forrest, president of Forrest, Inc., Gloucester, N. J. This fiber, particularly in the 25-denier size, is said to have given satisfactory results in test runs made by one of the larger carpet manufacturers.

Note—Textile market reports will be found on page 60 and "This and That" will be found on page 172.

NEWS ABOUT MEN

Samuel A. Salvage has resigned as chairman of American Viscose Corp., New York, effective Dec. 31. He has been an active leader in the company since its founding in 1910. He will remain a director.

Jerome A. Newman, who was reported last month as the purchaser of controlling interest in Algonquin Printing Co., Fall River, Mass., has been elected president, treasurer and a member of the board of directors. **Douglas Newman** has been elected vice-president and a director.

Arthur Besse, president of the National Association of Wool Manufacturers, was the principal speaker at the annual meeting of the Philadelphia Wool & Textile Association, in Philadelphia, Nov. 3.

James G. Blauvelt has retired as president and principal stockholder of the Hohokus (N. J.) Bleachery, and **Bertram H. Saunders,** with the business since 1913, has been elected president. **J. Gilbert Mearns,** plant manager, has become vice-president, and **James G. Healion,** sales manager, has become secretary. **Randall P. Blauvelt,** son of Mr. Blauvelt has been named assistant-treasurer.

Dr. Harvey D. Thornburg, son-in-law of the late Louis B. Goodall, has been elected to the board of Goodall Worsted Co., Sanford, Me.

William B. Bachof has been elected president of Spool Cotton Co., New York, at a recent meeting of the board of directors. He succeeds **Auguste Richard,** who resigned to join Pacific Mills as vice-president, as reported in these columns last month. Mr. Bachof has been with Spool Cotton Co. since 1897. **Herbert Grandage** has been appointed general manager in charge of all sales of Spool Cotton Co.

James G. Pottinger has been elected president, treasurer and general manager of Everlastik, Inc., Chelsea, Mass. For the last year he has been vice-president and treasurer of Super-Tone, Inc., and for 13 years previous was with Reliance Mfg. Co., Chicago.

L. William Horr on Nov. 1 celebrated the 56th anniversary of his joining Minot, Hooper & Co., New York. He is a member of that firm. Next year this dry goods commission house will celebrate its 100th anniversary.

Gene Tunney, former heavyweight champion, has been elected a director of Marlboro Cotton Mills, Bennettsville, S. C., to succeed **T. Hall Keyes,** resigned.

Alfred C. Rockwell, was elected president of the Boston Wool Trade Golf Club at the final outing of the season at Andover (Mass.) Country Club last month. **Harold T. Lindsay** was elected vice-president and **John L. Black,** secretary-treasurer.

Ralph C. Perkins, treasurer, Pilgrim Mills, Fall River, Mass., elected a vice-president of National Association of Cotton Manufacturers at its recent annual meeting in Boston reported on page 64.

Dr. Charles M. A. Stine, vice-president in charge of research of E. I. du Pont de Nemours & Co., for the last ten years, and member both of the company's board of directors and executive committee, will be presented with the Perkin Medal for valuable work in applied chemistry by the Society of the Chemical Industry at a meeting in New York on Jan. 12, 1940.

Paul T. Cherington, prominently associated with the textile industry for many years, has become a general partner in McKinsey & Co., New York. He was secretary of the National Association of Wool Manufacturers following the last war and for nine years director of research for J. Walter Thompson Co. He is author of numerous books on marketing problems.

E. Blair Gorden, president of Dominion Textile Co., Montreal, Canada, has been elected a director of the Paton Mfg. Co., filling the place formerly held by his father, the late Sir Charles Gordon. **J. W. Booth** a director and general man-

H_2O_2

HIGH QUALITY

HYDROGEN PEROXIDE

FOR THE TEXTILE INDUSTRY

100 VOLUME

Hydrogen Peroxide of high and uniform quality is now offered the textile industry by Pennsylvania Salt Manufacturing Company for use as a dependable and economical bleaching agent.

It is supplied as 100 volume material in returnable glass carboys containing 120 pounds and in aluminum drums containing 250 pounds net. You will find this Company a dependable source of supply for Hydrogen Peroxide as well as for exceedingly pure Caustic Soda. May we quote on your requirements?

PENNSYLVANIA SALT MANUFACTURING COMPANY
Widener Building, Philadelphia, Pa.
New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte

PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals

The I. C. S. student stands out in the TEXTILE WORLD!

The textile industry has one thing in common with other industries, businesses and professions—it offers the best positions and the highest rewards to THE TRAINED MAN!

That's why the I.C.S. student stands out in this specialized field. By enrolling for I.C.S. Courses related to his work, he proclaims his ambition, his determination to succeed! And he gets the training that fits him for "bigger things"—that makes him stand out from the untrained mass.

It is significant that more than 600 American schools, colleges and universities (including 25 state universities) have adopted texts prepared by the I.C.S. . . . that I.C.S. methods are commended by leading educators . . . that former I.C.S. students today hold leading positions in every business and industrial field.

These facts are significant to the employee, who seeks a way to improve his worth and his position —and to the employer, who knows that courage and ambition are traits he wants in his personnel.

NOTE TO EMPLOYERS: ***Write on your firm's letterhead for information on group and apprentice training programs.***

INTERNATIONAL CORRESPONDENCE SCHOOLS

BOX 9338, SCRANTON, PENNA.

Without cost or obligation, please furnish me with full particulars about the subject *before* which I have marked X:

☐ **Cotton Manufacturing** ☐ **Chemistry**
☐ **Woolen Manufacturing** ☐ **Business Management**

TECHNICAL AND INDUSTRIAL SUBJECTS

☐ Air Conditioning and Cooling	☐ Diesel Engineering	☐ Radio ☐ Refrigeration
☐ Architectural Drafting	☐ Electrical Engineering	☐ Sanitary Engineering
☐ Architecture	☐ Electric Lighting	☐ Sheet Metal Work
☐ Auto Elec. Technician	☐ Fire Bosses	☐ Steam Elec. Eng'ring
☐ Auto Technician	☐ Foremanship	☐ Steam Engineering
☐ Aviation Engineering	☐ Heating	☐ Steam Fitting
☐ Boilermaking	☐ Heat Treatment of Metals	☐ Structural Drafting
☐ Bridge Engineering	☐ Highway Engineering	☐ Structural Engineering
☐ Building Estimating	☐ House Planning	☐ Surveying & Mapping
☐ Chemistry	☐ Machinist	☐ Telegraph Engineering
☐ Civil Engineering	☐ Mechanical Drafting	☐ Telephone Work
☐ Coal Mining	☐ Mechanical Eng'ring	☐ Toolmaking
☐ Contracting and Building	☐ Patternmaking	☐ Ventilation
☐ Cotton Manufacturing	☐ Plumbing	☐ Welding, Electric and Gas
	☐ Public Works Eng'ring	☐ Woolen Manufacturing

BUSINESS SUBJECTS

☐ Accounting	☐ Civil Service	☐ High School Subjects
☐ Advertising	☐ College Preparatory	☐ Managing Men at Work
☐ Bookkeeping	☐ Cost Accounting	☐ Salesmanship
☐ Business Correspondence	☐ C. P. Accounting	☐ Spanish
☐ Business Management	☐ First Yr. Col. Subjects	☐ Secretarial Work
	☐ French	☐ Stenog. and Typing
		☐ Traffic Management

Name..... *Age*.....

Address.....

City..... *State*.....

Present Position.....

Canadian residents send coupon to International Correspondence Schools Canadian, Limited, Montreal, Canada. British residents send coupon to I. C. S., 71 Kingsway, London, W. C. 2, England.

NEWS ABOUT MEN

Col. G. Edward Buxton, president since 1932 of the five Maine mills controlled by New England Industries, Inc., has resigned. He has been succeeded by Walter S. Wyman, who is also president of the parent company. The mills are the Edwards, Androscoggin, Hill, Bates and York. Weston Howland has resigned as executive vice-president of the five mills. Thomas Gorham and Robert Braun have been made directors of Androscoggin, Hill, Bates, and Edwards, and Mr. Gorham and J. B. Newton, directors of York. The mills' products will be sold by Bliss, Fabyan & Co. until next February when a sales organization headed by Howard Bishop, now of Grosvenor Dale Corp., will take over.

ager has been appointed managing director.

Arthur B. Otto, of Jonathan Ring Co., was elected president of Philadelphia Textile Manufacturers Association at the annual meeting Oct. 25. **Franklin P. Knite** of Walter E. Knite & Sons was elected first vice-president, **R. A. Lukens,** of Continental Mills, second vice-president; **John E. Fite, Jr.,** Krout & Fite Mfg. Co., secretary, and **R. Emerson Putney,** of Philadelphia Silk Co., treasurer. **C. Marlin Bell** who has served the organization for many years as general manager will continue in that office.

Stuart W. Rabb has resigned as vice-president and general manager of the Erlanger and Nokomis Cotton Mills, Lexington, N. C., which post he has held for the last two years. For the previous 17 years he acted as superintendent of the mills, succeeding **J. M. Gamewell** as vice-president in 1937.

Sir Kenneth Lee, head of Tootal, Broadhurst, Lee, Ltd., Manchester, England, has been made director of the Radio and Communcations Division of the Information Ministry, London, England.

W. J. Buck, of Belding Corticelli Co., Montreal, was elected president of the Textile Society of Canada (Eastern Division) at the meeting on Oct. 7 in Montreal. H. F. Mills of Dominion Textile Co. was elected permanent honorary president. **J. H. Grant** of Canadian Cotton, Ltd., was elected first vice-president. A paper on "Yarn Strengtht" was read by **Dr. P. Larose** of National Research Council, Ottawa.

Milton G. Harrington has been appointed secretary of the Uptown Credit Group, affiliated with the National Federation of Textiles, New York, to succeed the late Frank Corr.

Andrew J. Sokol formerly secretary of Brand & Oppenheimer, New York, and with that firm for 25 years, will join Cohn-Hall-Marx Co., New York as assistant treasurer on Dec. 1.

Allen R. Mitchell, 3rd, has been admitted to partnership in the firm of Allen R. Mitchell & Sons, Shackamaxon Mills, Philadelphia, Pa.

Benjamin Russell, president, Russell Mfg. Co., Alexander City, Ala., has been re-elected president of the Alabama State Chamber of Commerce at its recent meeting in Birmingham, Ala.

L. W. Hamrick, treasurer of Phenix Mills, Kings Mountain, N. C., has been elected president of the Business Men's Club succeeding **Arnold Kiser.**

Wm. W. Neal, Sr., Marion, N. C., president and treasurer of Marion Knitting Mills, Inc., announces that he will be a candidate for the Democratic nomination for lieutenant governor of North Carolina in the June primary.

George K. Ripley, president of Troy (N. H.) Blanket Mills, was elected to a second term as president of the New Hampshire Manufacturers' Association at the organization's 27th annual meeting in Manchester. Other officers include: vice-president, J. W. Dole of Bristol; treasurer, M. C. Mackenzie of Derry.

E. J. Weil, formerly sales manager of Van Raalte Co., has been elected vice-president in charge of sales and distribution of Archer Hosiery Mills, Columbus, Ga.

J. C. Roberts, Textiles, Inc., Gastonia, N. C., is the new commander of Gaston Post No. 23, American Legion. Mr. Roberts is a former president

of the Southern Combed Yarn Spinners Association.

Thomas J. Wallner, Pulaski, Va., president of a large number of hosiery mills, was honored Oct. 14, when 400 operatives of his plants at Pulaski, Salem, Marion, Chilhowie, Independence and Hillsville, all in Virginia, and Randleman, N. C., gathered at the Monticello Club, Pulaski, for a banquet.

Dr. Walter M. Scott has been appointed chief of the Cotton Chemical Finishing Division of the Southern Regional Research Laboratory at New Orleans. For the last nine years Dr. Scott has been service director for Gustavus J. Esselen. He was for 11 years chief chemist for Cheney Bros.

James Johnson, Decatur, Ga., has been placed in charge of the Atlanta, Ga., regional office of the Wage-Hour division of the U. S. Department of Labor.

Henry H. Gurin has joined the Rayon Division of Scheuer & Co., New York, where he will specialize in the uptown converting field. For the last three years Mr. Gurin has been associated with Stephen Walser Associates.

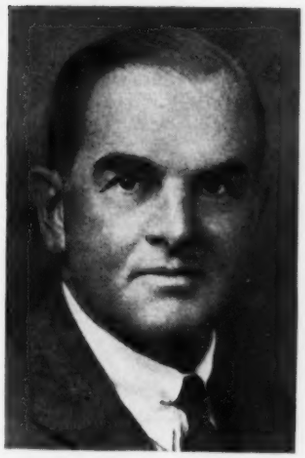
Harry Brown, for many years superintendent of Rosamond Woolen Mills, Elmont, Ontario, has been appointed technical adviser to **David C. Dick,** wool administrator of Canada.

Henry Schniewind, 3rd, for the last nine years associated with Susquehanna Silk Mills, has joined the gray goods department of William Whitman Co., New York. He will assist in merchandising the rayon and silk products of Marshall Field & Co. and Nonquitt Mills.

Harold F. Riley of New Bedford, Mass., has been appointed a control technician in the rayon plant of E. I. du Pont de Nemours & Co., Waynesboro, Va.

Alexander Walker will head the men's wear selling department of Botany Worsted Mills, Passaic, N. J., as sales manager, and **Francis Howard** will be in charge of styling and fabricating, effective with the coming heavyweight season. At that time the firm of Walker-Howard, Inc., will dissolve. Botany will discontinue its present men's wear selling channel through Terhune, Yereance & Wolff, New York.

Walter H. Dietze has formed the Walter Dietze Textile Corp., New York, to act as mill representative for sales of wool and rayon fabrics. Among others he will represent the Merrimac Mfg. Co.



John F. Tinsley, president and general manager of Crompton & Knowles Loom Works, Worcester, Mass., who was elected president of the Associated Industries of Massachusetts on Oct. 19.

Ronald McCreight has been appointed sales and promotion manager of the swimsuit and sun clothes division of Jantzen Knitting Mills, Portland, Ore. **Cregg Millet** has been named sales manager for the foundation division, and **Robert Dodson** will be in charge of sales for the sweater division.

Bernard Gelles has formed a new firm, Bernard Gelles & Co., New York, to execute orders on the cotton and wool top exchanges.

John E. Cassidy, who has been for several years in the underwear business in New York on his own account, is joining with Stone & Greene Co., also underwear selling agents, and the business will henceforth be known as Stone, Cassidy, Greene Corp. It will have offices at 350 Broadway.

R. S. Walker of American Viscose Corp., Nitro, Va., was given a testimonial dinner by his fellow employees in view of his retirement after more than 20 years service.

L. D. DeLoach has become general manager of Mayfair Cotton Mills, Arcadia, S. C. He was formerly plant superintendent.

Bishop W. Isom, assistant treasurer of Beaumont Mfg. Co., Spartanburg, S. C., has been chosen president of Spartanburg Kiwanis Club.

Frank Narby has been appointed chief editor of *The Berkshire Woolen News,* an independent and non-partisan newspaper devoted to news about those who work at the

Remove Starches by gentle NATURAL ACTION with

EXSIZE

● EXSIZE contains no harsh chemicals! There's nothing in it that can tender your sheerest fabric. For Exsize works by the gentle *natural* action of malt enzymes. It desizes starch sized cloth thoroughly and rapidly at nominal cost. Exsize ideally prepares fabrics for better bleaching, dyeing and sanforizing.

If you have any desizing problems, one of our field men will be glad to call at your mill to help you overcome them. Our laboratory facilities are at your disposal. Write to

PABST SALES COMPANY, CHICAGO, ILL.

Warehouses at New York, and Textile Warehouse Co., Greenville, S. C.

Copyright 1939, Pabst Sales Company, Chicago

WETTING-OUT

SANFORIZING

SOFTENING

with

SURFAX W.O.

FAST and ECONOMICAL

You may be one of the many now using this superior surface-active agent—and benefiting by its outstanding performance and economy. But if you are not, here's what it will do for you.

As a wetting-out agent SURFAX W.O. is extremely speedy; on a money-value basis, it will excell any other product of its type. It is being successfully used on all fibers. It will save you time . . . cost you less.

Customers tell us that it is the fastest and most suitable product available for sanforizing, and that it is unequalled in wetting-back ability. As a softener, SURFAX W.O. also imparts exceptionally high absorbency. Strong claims, these . . . but you can prove them yourself by Draves Test or in actual production. Write for trial quantity for test.

●

E. F. HOUGHTON & CO.

Third & Somerset Streets, Phila., Pa.

Southern Division Office and Warehouse
1301-5 W. Morehead Street, Charlotte, N. C.

NEWS ABOUT MEN

Berkshire Woolen Co., Pittsfield, Mass. The first issue came off the press Oct. 6. **Harding W. Whitney,** secretary of the company is reporter of office news, and **William Carrigan,** president of Pittsfield Local 301 of the Textile Workers of America, is reporter of union news.

Mantaro Matsumoto, formerly technical expert of the Japanese Government Yokohama Silk Conditioning House, is now associated with the Raw Silk Intelligence Bureau, New York, as technical expert succeeding Hiroshi Shiga who has returned to Japan.

Jacques Bramhall of Iselin Jefferson Co., New York, heads the annual drive for the American Red Cross among merchants in the Worth Street district.

John H. Brine, president of Rollins Hosiery Mills, Des Moines, Iowa, for the last 10 years and past-president of the National Association of Hosiery Manufacturers, has resigned to become executive vice-president and general manager of Oscar Heineman Corp., Chicago.

Albert Geddes is now supervising operations at Gilt-Edge Finishing Co., Quidnick, R. I. He was formerly with Putnam Finishing Co.

Alfred B. Harper, safety director Edwards Mfg. Co., Augusta, Me., spoke at the National Safety Congress and Exposition, held last month in Atlantic City, N. J.

K. S. Campbell, formerly associated with the Ciba Co., Charlotte, N. C., has been named professor in the textile division of the Georgia School of Technology.

Raymond H. Chase was appointed agent and assistant treasurer of Spencer Mills, Inc., succeeding **Eugene H. Timanus.** Mr. Chase was formerly with Warwick Mills, West Warwick, R. I.

C. C. Smith has been elected assistant-treasurer of Hampton Spinning Mills, Clover, S. C., succeeding **L. L. Hardin.**

Otto Morningstar has joined the West Point (Ga.) Mfg. Co. textile laboratory at Shawmut, Ala. A graduate of Alabama School of Technology, he received his Ph.D. at Massachusetts Institute of Technology last summer. He will devote his time to textile research, working with **Robert Reardon,** director of the laboratory.

Weldon B. Longgley, Chattanooga, Tenn., has become representative for Piedmont Silk Mills, Inc., Greensboro, N. C., in Tennessee, Alabama, Georgia, Kentucky and Mississippi.

Joe O. Foil has been appointed sales representative of Standard-Coosa-Thatcher Co., Chattanooga, to the seamless hosiery trade in the Carolina district. **N. P. Murphy** will continue to contact the full-fashioned trade. Mr. Foil will work out of the Greensboro, N. C., office in the Guilford Building.

Russell Bevan is office manager of American Thread Co., Holyoke division, succeeding **Arthur J. Brouille.** He comes to Holyoke from Willimantic.

Karl H. Alderman, formerly of Holyoke, Mass., has opened a wool brokerage business in Boston on his own account. He was with the Farr Alpaca Co. for several years and recently at Farr's Boston sales office.

J. J. Rauch, for the last 29 years superintendent of the Victoria Cotton Mills, Rock Hill, S. C., is resigning to become city manager of Rock Hill.

Mrs. Beatrice S. Ehrman has joined the staff of the Traphagen Commercial Textile Studio, New York, as stylist and head of sales force.

Carl T. Erickson of Commercial Factors Corp., New York, has succeeded **John Clingen** of J. P. Stevens & Co., as president of the Silk Bowling League of New York.

E. N. Schwartz, of the technical division of E. I. du Pont de Nemours & Co.'s Buffalo plant, has been named chief clerk of the rayon unit at Old Hickory, Tenn.

A. J. Owler of Paul Whitin Mfg. Co., Northbridge, Mass., has been elected president of the Southern New England Textile Club for the new year. The 175th regular meeting of the club was held at Providence last month. Mr. Owler succeeds **Arthur B. Barnes** of Ponemah Mills, Taftville, Conn. A new and active membership drive is under way.

Austin J. Hare, for many years active in the burlap and cotton goods trade, has joined the cloth brokerage office of C. P. Lord, New York.

Philip C. Gossett has been promoted to the position of assistant-treasurer of Chadwick-Hoskins Co. and Gossett Mills, with headquarters in Charlotte, N. C. Other changes in the Gossett chain are as follows: **N. G. Hardie,** now general superintendent of Chadwick-Hoskins company in Charlotte, will be transferred to Anderson, S. C., as general superintendent of Gossett Mills.

Refreshing!

The difference between hard and easy work

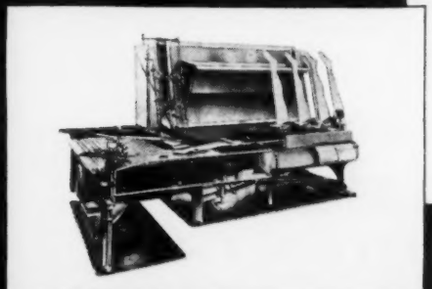
Working on equipment that has been designed around the operator's most comfortable position can be almost a pleasure in contrast to working on a machine that has been designed with the worker as a last consideration.

The Proctor & Schwartz Boarding Machine (whether for women's hosiery or men's socks) is a piece of equipment that was actually designed to assure the "boarder" perfect ease and comfort while working. It also provides for maintenance of highest quality results at the highest production. It thus enables the boarder to increase his or her earnings while bringing important savings in time and money to the manufacturer or finisher.

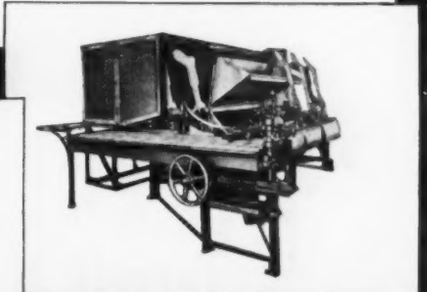
32 dozen pairs per hour for women's hosiery and 52 dozen pairs per hour for men's half-hose are the possible productions for these two-operator machines . . . whether full-fashioned or seamless hosiery, light, medium or heavyweight.

And the prices of these machines are such that they assure the buyer a substantial return on his investment.

PROCTOR & SCHWARTZ • Inc • Philadelphia



Automatic Machine for Women's Hosiery 11½ feet wide by 9½ feet deep.



Automatic Machine for Men's Half Hose 10½ feet wide by 9½ feet deep.

Proctor & Schwartz BOARDING MACHINES

DENMAN
LOOM PARTS

Quality — —
at COMPETITIVE PRICES

Time-tested, service-proven — DENMAN LOOM PARTS are your best buy, regardless of price. Made to strict specifications, they have proven their ability to perform their jobs in a splendid fashion under the most exacting requirements. Used in leading mills throughout the world, they give you the low cost, high quality production necessary to meet today's competition.

LOWEST COST PER LOOM PER YEAR

Exclusive Sales Agents

The Terrell Machine Co., Inc.

CHARLOTTE, N. C.

Luther Pilling, Danielson, Conn.....N. E. & Canada
E. W. S. Jasper, Inc., Elizabeth, N. J.....Penn. & N. J.
Geo. Thomas & Co., Manchester, Eng.....European Agt.

NEWS ABOUT MEN

J. W. Wood goes from Anderson to Charlotte. **J. M. Bolt,** now superintendent of the Calhoun Mills of Calhoun Falls, S. C., will go to Charlotte as general superintendent of Chadwick-Hoskins Co. **T. G. Gray,** present superintendent of Williamston, S. C., plant of Gossett Mills, will become superintendent of Calhoun Mills, and **A. D. Martin,** now overseer of weaving at Calhoun Mills, will be transferred to Williamston as superintendent of Williamston plant. **J. M. Payne,** overseer of weaving at Williamston, has become overseer of weaving of Calhoun Mills, and **P. A. Worthy,** second hand of weaving at Toxaway plant of Gossett Mills at Anderson, has been promoted to overseer of weaving at Gossett's Williamston plant.

D. Singleton Cook, agent of Pepperell Mfg. Co., Biddeford, Me., has been elected president of Textile Club of Northern New England, succeeding **John F. Greene,** agent of Hill Mfg. Co., Lewiston.

Edith M. Ruess has joined the Printex Designing Co., New York, where she will head a new division of the company featuring designs for high fashioned cottons and silks.

T. C. Drew has resigned as superintendent of D. E. Converse Mfg. Co. to take a similar position at Mayfair Cotton Mills, Arcadia, S. C.

Ernest Geier, of Duplan Silk Corp., New York, has been made an honorary member of the American Association of Textile Technologists, the first to be so designated.

W. L. Taylor, superintendent of Globe Mills Co., Mount Holly, N. C., has resigned to become superintendent of Sellers Mfg. Co., Saxapahaw, N. C.

H. W. Loeper has been recalled from Cayuga Linen & Cotton Mills, Lexington, N. C., to the home office at Auburn, N. Y. **Michael Comerinsky** will remain in charge of production at Lexington.

J. T. Bogia has been made chief clerk at Spruance plant of E. I. du Pont de Nemours & Co.

Harmon Howorth and **William J. Hadra,** associated with the Celanese Corp. of America, Cumberland, Md., have been transferred to the new unit at Pearisburg, Va.

R. C. Veach has resigned as assistant superintendent of the units of Marshall Field & Co., Draper, N. C., and has accepted a similar position with Carolina Narrow Fabric Co., Winston-Salem, N. C.

Ernest Shumake, formerly with Jefferson (Ga.) Mills, has become overseer of carding, spinning and twisting at Cayuga Linen & Cotton Mills No. 2 unit, Lexington, N. C.

James Oates, formerly overseer of carding at Santee Mills, Bamberg, S. C., has become overseer of carding at Brookside Mills, Knoxville, Tenn.

Charles H. Reynolds, designer for Cherokee Spinning Co., Knoxville, Tenn., has been transferred to the company's New York office and made assistant to **Sidney D. Blue,** who is in charge of the office.

D. C. Chandler, formerly overseer of spinning at Judson Mills, Greenville, S. C., has become general overseer of carding and spinning at Watts Mill, Laurens, S. C.

Clarence L. Cutler, for many years overseer of dyeing with Arlington Mills, Lawrence, Mass., until his resignation last spring, is now holding a similar position with Atlantic Mills, Stottville, N. Y. He is a past president of the National Association of Woolen & Worsted Overseers.

Tom J. Jennings has become overseer of finishing for Wilton (Maine) Woolen Co.

K. B. Every has been transferred from Anderson, S. C., unit to Pendleton, S. C., plant of Gossett Mills.

Otis Williams has succeeded **Hans Bard** as superintendent of Dallas (Tex.) Cotton Mills Co.

T. J. McNeely has resigned as superintendent of the Rhodes-Rhyne Mfg. Co., Lincolnton, N. C.

Arthur F. Franklin, formerly of Graniteville Co., Warrenville, S. C., has been appointed overseer of carding and spinning in Mill No. 2 at Gayle unit of Springs Cotton Mills, Chester, S. C.

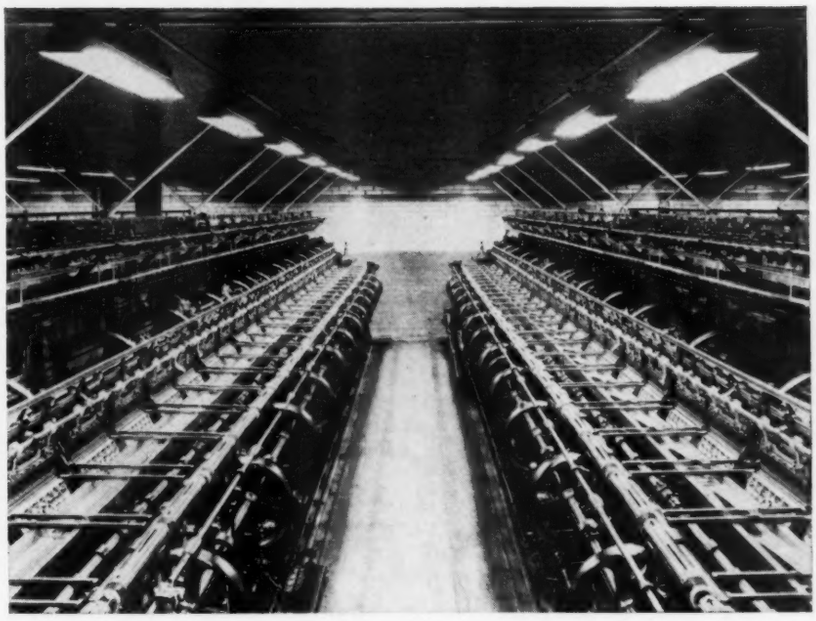
J. V. McCombs, formerly superintendent of Pilot Mills, Raleigh, N. C., has become associated with the Quaker Chemical Products Co.

Harold F. Riley, of New Bedford, Mass., has joined the E. I. du Pont de Nemours & Co. as a control technician at rayon plant, Waynesboro, Va.

Walter R. Britland has been named superintendent of manufacturing at the American Thread Co., Holyoke, Mass., to succeed **Arthur K. Stewart,** who, as general manager of production of all of the company mills, will be located at the New York office.

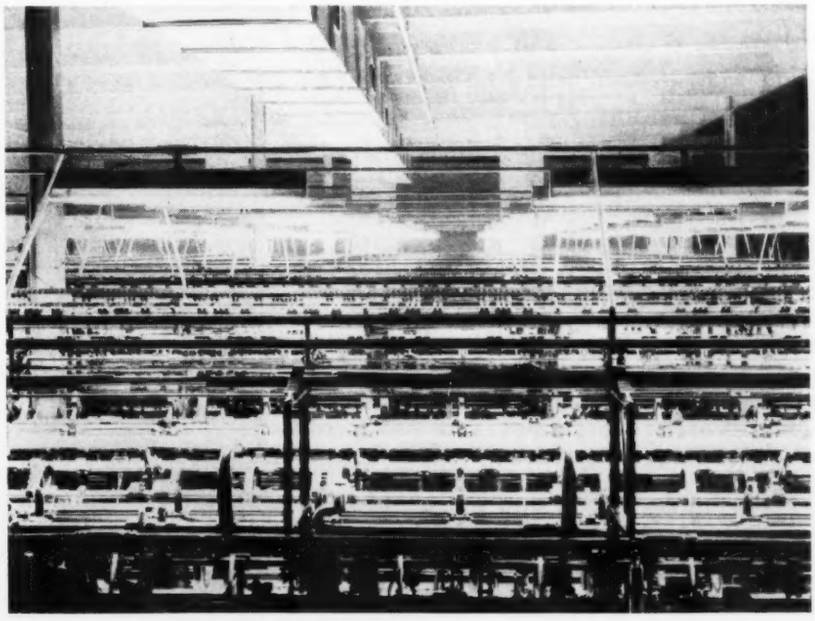
L. M. Saxon, formerly with Jordan Mills, Columbus, Ga., has been made general super-

HOSIERY MILL PUTS DAYLIGHT *in* WINDOWLESS FACTORY *with* G-E FLUORESCENT MAZDA LAMPS



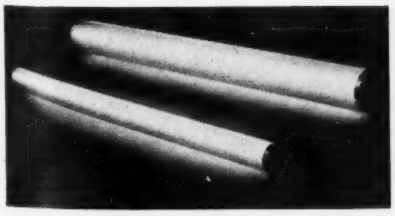
The Hudson Silk Knitting Company of Charlotte, N. C., manufacturer of full-fashioned silk hosiery, operates a modern windowless, air-conditioned plant. It is also light-conditioned with G-E MAZDA F (fluorescent) daylight lamps . . . which provide high-level, daylight quality illumination.

The above view is down the knitting aisle. Eight 30 watt 36″ daylight fluorescent lamps equip each unit over each machine. Units are spaced about 36″ apart and mounted 41″ above the knitting bar. The installation initially provided more than 50 footcandles.



This view looking across the rows of machines shows how extensive the fluorescent lighting installation is. Because this new light source is cool, it is possible to mount fixtures close enough to the work to obtain a high level of illumination without causing the operators discomfort.

These new G-E MAZDA F daylight lamps offer textile mills wide uses . . . especially for inspection and other fine work. For further information about these new lamps, write to General Electric Co., Dept. 166-T-K, Nela Park, Cleveland, Ohio.



G-E MAZDA F lamps come in 18, 24, 36 and 48″ lengths and several wattages in daylight and white colors, and in 18, 24, and 36″ lengths in gold, pink, blue, green, and red. They are recommended for use with equipment providing good power factor . . . thereby assuring maximum use from the wiring system.

G-E MAZDA F LAMPS

GENERAL ELECTRIC

He's hard and he's dirty and his name is "Unconditioned Water." He will take on your Production Mngr., your Boss Knitters or Weavers, your Dye House Supt., your Star Salesman and play havoc with their best efforts. The surest and quickest way to knock him out is by installing now—a

HUNGERFORD & TERRY, Inc.
WATER PURIFICATION SYSTEM

Then watch gross sales and net profits take a healthy upward swing: for whiter whites, brighter colors, better fabric and the elimination of costly spoilage caused by poor water are assured when your mill is equipped with a Hungerford & Terry, Inc., Water Purification System . . . Why not request a survey and estimate that involve no fee, no obligation whatever. Write us.

● ● ●

HUNGERFORD & TERRY, INC.
WATER PURIFICATION PLANTS DESIGNED
INSTALLED *and* GUARANTEED
CLAYTON, NEW JERSEY

intendent of National Textile Mills, Monrovia, Calif.

Howard T. Townsend has been made overseer of the carding departments of Erlanger Cotton Mill and Nokomis Cotton Mill, both of Lexington, N. C. Mr. Townsend formerly held this position with the Erlanger mill and was transferred to the Nokomis mill as superintendent. The mills are now being operated by the same company and Mr. Townsend has his former position as well as another position as head of the two carding departments. **R. H. Hope,** who has been superintendent of Erlanger, is now superintendent of both mills.

Obituary

Julius Forstmann, 69, founder and chairman of Forstmann Woolen Co., Passaic, N. J., died Oct. 27 at his home in New York. Mr. Forstmann was a prominent figure in his industry for nearly 35 years and made a distinct contribution toward raising quality standards through those years. For a considerable period his fabrics have been style leaders in the women's wear field, one of his outstanding successes being the Bolivia. Mr. Forstmann was born in Germany in 1872, the fourth generation in a line of wool manufacturers. He had made several business trips to this country prior to 1904 when he decided to set up manufacturing facilities on this side and organized the Forstmann & Huffmann Co. His mill turned out its first piece of goods in March, 1905. The success of the growing business was due in large part to Mr. Forstmann's intimate knowledge of wool buying, manufacturing and finishing as well as his canny sense of styling and merchandising. He was a leader in movements to combat style piracy and quality degradation. His success ranks him high among American industrialists, his private fortune at one time being estimated as approaching $50,000,000. His 300-ft. yacht, the Orion, was described as the largest privately owned yacht in the world. Mr. Forstmann is survived by three sons, Curt E. Forstmann, president of the Forstmann Woolen Co., Julius Forstmann, Jr., treasurer, and Reinhold Forstmann; also by a daughter, Louise, wife of Kenneth Wilson, vice-president of the Julius Forstmann Corp.; and by his widow.

Bachrach

Julius Forstmann

Edward Hussey, 78, vice-president of Sanford (Me.) Mills, died Oct. 28. Mr. Hussey had been connected with the mills for the last 56 years.

Thomas J. Wilson, 59, superintendent of the Forsyth (S. C.) Cotton Mills, died at his home in Forsyth, Oct. 27.

James H. Holden, 74, treasurer and superintendent of James H. Holden Co., Fall River, Mass., died Oct. 28.

Arthur Jefferson Blackwood, 57, for 15 years general superintendent of Durham Hosiery Mills No. 4 and No. 7 at Carrboro, N. C., and No. 15 at Mebane, and later superintendent of the Laura Cotton Mills Co., at Roxboro, until his retirement about a year ago, died at his home in Durham, N. C., on Oct. 25.

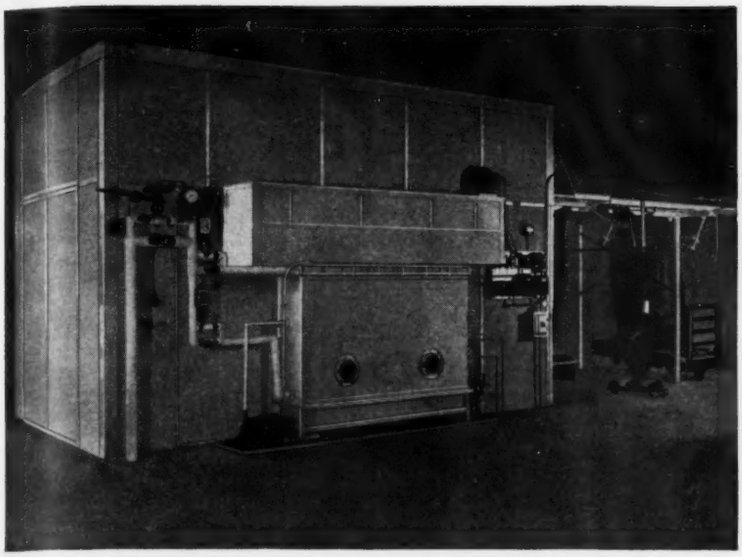
P. S. Matheson, 59, representative of Norris Bros., textile supplies, Greenville, S. C., died in Charlotte, N. C., recently.

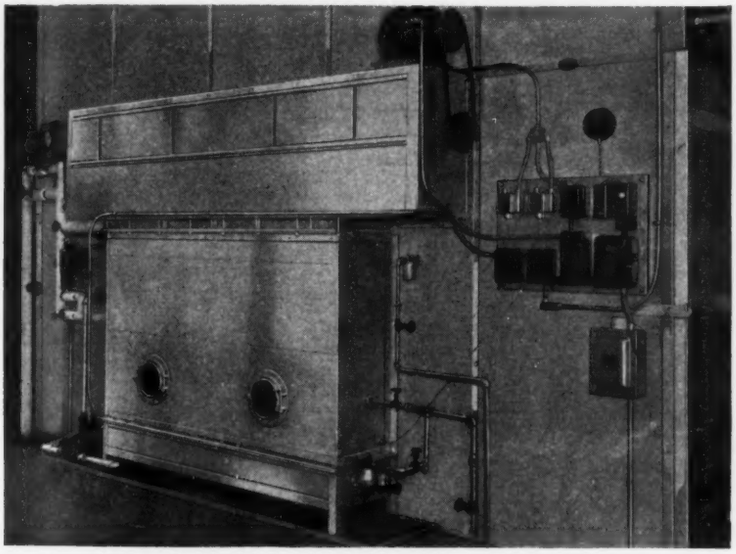
Murray N. Bulford, 53, vice-president and general manager of Clearwater Mfg. Co., in Aiken county, S. C., died at his home in Augusta, Ga. on Oct. 22. He was formerly with Pontiac (R. I.) finishing plant of B. B. & R. Knight, Inc.

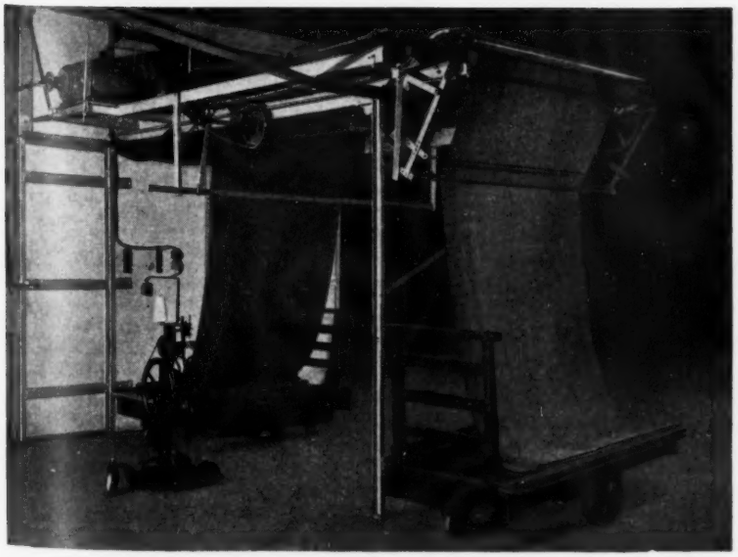
Harris L. Horton, 60, president of Efird Mfg. Co., Albemarle, N. C., died in that city Oct. 25. He became bookkeeper of the company in 1900 and during the ensuing 39 years served as secretary, treasurer and finally president.

George B. Hamblin, 63, vice-president of the Whitin Machine Works, Whitinsville, Mass., and former works manager for that company, died on Oct. 20. He was associated with

HOW TO RESTORE NATURAL MOISTURE TO CLOTH AT 30 YARDS PER MINUTE







THE new Hunter Brilsonair Cloth Conditioner, embodying a totally new principle of restoring natural moisture to cloth after finishing, is setting new records for evenness and uniformity, flexibility and production. For example:—

One unit occupying less than 35 feet of floor space, installed in a Massachusetts mill, is conditioning worsted fabrics at 30 yards per minute with absolutely uniform regain and improved finish. In another New England mill, a smaller Conditioner gives comparable results at 25 yards per minute on fabrics ranging from 11 to 32 ounces. Furthermore, it is producing the desired regain within unvarying limits.

The Conditioner comes complete with air conditioning unit, the necessary motors, fans, heating coils, housing and control instruments. You need only wire the motors and bring your steam and water lines to the Conditioner, and you are ready to run.

Any mill man interested in guaranteed evenness of regain at high speeds, reduction of offshade goods, flexibility and uniformity in this important new field, is invited to mail the coupon.

Note: Hunter Brilsonair Conditioning and Drying Systems, are designed, manufactured and sold jointly by the James Hunter Machine Company of North Adams, Mass., and the Bridges-Wilson Corporation of Boston, Mass. For complete details on room, yarn or stock conditioning, write either company.

•

Southern Agents: Carolina Specialty Co., Charlotte, N. C.
Western Representative: E. G. Paules, 343 Bendix Bldg., 1206 Maple St., Los Angeles, Cal.

JAMES HUNTER MACHINE CO., North Adams, Mass.

Please send full details on the Hunter Brilsonair Cloth Conditioner.

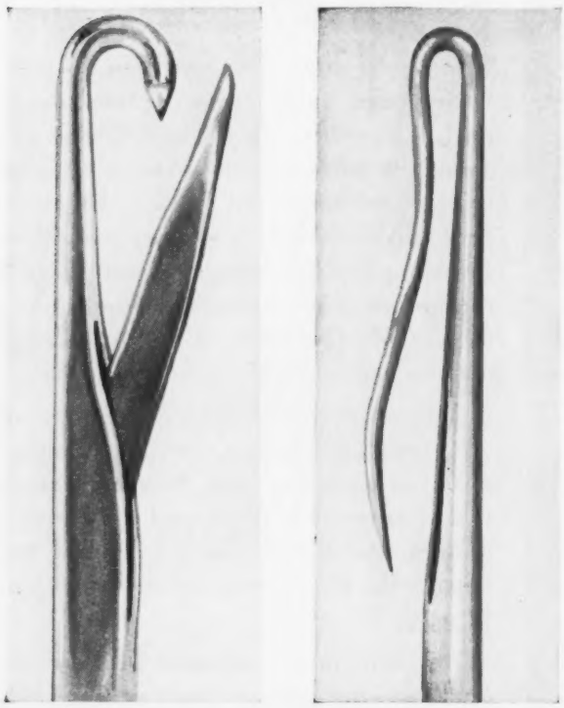
Name .....

Mill .....

Address .....

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS.

COOPER NEEDLES



ARE SECOND TO NONE

Charles Cooper Company are makers of both spring needles and latch needles of the very highest quality. The very latest devices and controls are used in the tempering equipment, thus insuring the greatest possible precision in uniformity of temper.

Every step is closely guarded by automatic equipment which is accurate and positive in its action, thus holding everything to the exact time limit set for each and every function in the tempering process.

The very latest ideas in automatic needle-making machinery are embodied in every automatic machine used by the company in the manufacture of its needles, both spring and latch; and therefore all the many advantages that are inherent in an automatic machine-made product are very definitely represented in the needles of Cooper manufacture.

All this is backed up by workers who have spent a lifetime at the business of making needles and have become familiar with every phase of the fine art of needle making.

The user of Cooper needles gains all the benefits possible from this efficient and experienced force of workers, together with the very highest grade of steel wire obtainable, the use of automatic devices for hardening and tempering and also the latest ideas in automatic machines to form the wire into its various shapes and sizes.

On all this is based our claim that we make a needle that is second to none in all the important qualities required in a knitting needle.

CHARLES COOPER CO., INC.
Bennington, Vermont, U. S. A.

the Whitin Machine Works for more than 40 years.

Edwin Rubin, 70, president of the American Silk Mills, Inc., Orange, Va., died at his home in New York Oct. 3.

James Montgomery, 72, one of the founders of the Wachusett Thread Co., Worcester, Mass., died last month.

James R. Giebel, 55, president of Reading (Pa.) Towel Mfg. Co., died Oct. 9.

John F. Everett, 89, a director of Marlboro Cotton Mills, Bennettsville, S. C., died recently.

Adolph Elsas, 63, vice-president of Fulton Bag & Cotton Mills, died at his home in Woodmere, N. Y., Oct. 29.

J. A. Stanley Hand, 55, vice-president and treasurer of John Hand & Sons Silk Co., Paterson, N. J., died Oct. 14.

J. Harry Conlen, 60, former secretary-treasurer of the Riehm Knitting Mills, Philadelphia, died last month.

Heyman Hagedorn, 53, formerly consulting engineer for West Point (Ga.) Mfg. Co., and more recently of Clarion, Pa., died at West Point Oct. 3.

J. O. Bell, 74, former official of Green River Mills, Tuxedo, N. C., died Oct. 18 at Hendersonville, N. C.

Lester Wollman, sales manager of Harriet Fabrics Corp., New York, died recently.

William J. Brady, 68, retired general manager of the Waucantuck Worsted Mills, Uxbridge, Mass., died last month.

Edward J. Fleury, 45, associated with J. D. Hanf & Co., New York, died last month.

George W. Cureton, 87, who built and operated the old Dademont Cotton Mill, died at Rising Fawn, Ga., recently.

Job Brooks, 76, a designer for James & E. H. Wilson and the Berkshire Woolen Co. before retirement, died Oct. 7 in Pittsfield, Mass.

Albert E. Sanborn, 76, for many years active in the Belnap Stocking Co., Laconia, N. H., died Oct. 13 in that city.

Fred Clark, 54, Gaffney, S. C., retired textile official, died October 14.

Charles W. Huber, 79, secretary of Thomas Jackson & Son Co., Reading, Pa., manufacturers of ropes, died recently.

Harry G. Gifford, 47, assistant sales and merchandising manager for Bradley Knitting Co., Delavan, Wis., died Oct. 18. He had been associated with the Bradley concern for more than 20 years.

Regis J. Beneville, American agent for English and Scotch woolen houses, died at his home in Freeport, N. Y., late last month.

Arthur F. Wattles, 84, widely known in the cotton industry because of his long association with the starch business, died at his home in Canton, Mass., Oct. 18.

R. J. Pope, 68, for 18 years a departmental superintendent of the Trenton Cotton Mills, Gastonia, N. C., died Oct. 16.

Marshall D. Sides, 59, superintendent of New City Mills Co., Newton, N. C., for 15 years, died suddenly Oct. 7.

John Marshal, 81, former superintendent of Dominion Textile Co., Magog, Quebec, died Oct. 23 at his home in Montreal.

William Kilgour, at one time superintendent of the Klots and of the Bliss Silk Mills in Scranton, Pa., and active for more than 40 years in the business, died Oct. 18.

Robert F. Steele, Sr., 64, for the last 20 years superintendent of Lafayette (Ga.) Cotton Mills, died recently.

C. G. Alexander, 52, for more than 20 years a foreman in E-Z Knitting Mills, Cartersville, Ga., died suddenly at Calhoun, Ga., while on a business trip.

Wm. T. Storey, 73, Gastonia N. C., for many years superintendent of the Modena Mills, died Oct. 13.

Samuel W. Anderson, 78, for many years superintendent of Pendleton (S. C.) Mfg. Co., died recently.

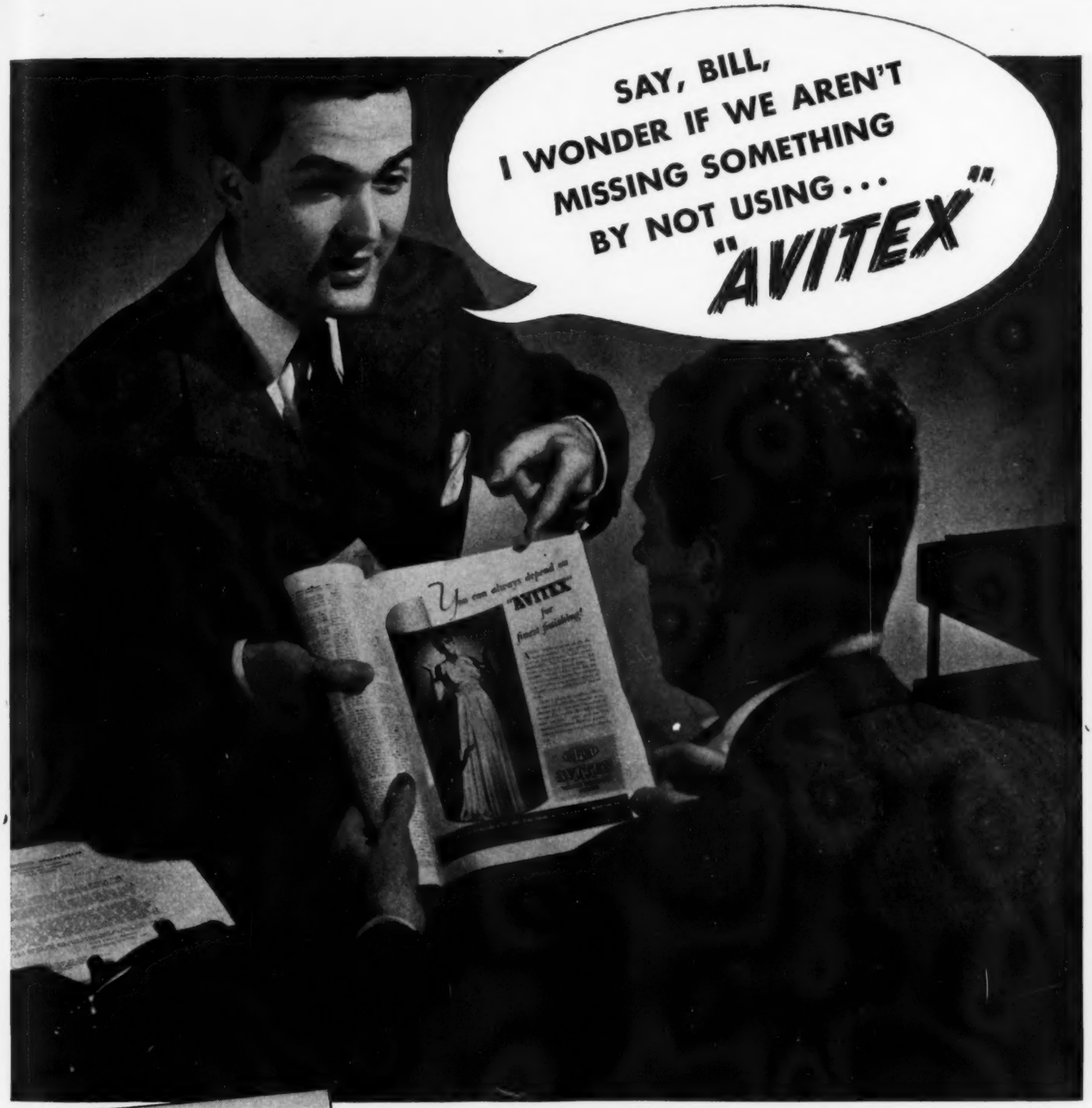
John Bailey Thickins, 61, formerly assistant superintendent of the West Pittsfield Mill of William E. Tillotson Co., died at Pittsfield, Mass., Oct. 12.

William E. Gammon, 55, overseer of weaving at Riverside & Dan River Cotton Mills, Danville, Va., was killed Oct. 2 in an automobile accident when he was driving to work.

B. R. Burnham, 46, for a number of years until last December superintendent of the Pelzer (S. C.) Mfg. Co., died recently at Greenville, S. C.

Joseph Durant, 79, a foreman at the Blanchard Mill, Berlin, N H., for 45 years, died at his home in that city recently.

Charles Bromage, 63, foreman at Hodges Carpet Co., Indian Orchard, Mass., died recently. He had been employed by the concern for 43 years.



DU PONT

REG. U. S. PAT. OFF.

AVITEX

REG. U. S. PAT. OFF.

TEXTILE FINISHING AGENTS

BILL: You know, I've been wondering the same thing, John. Talked to the foreman yesterday about getting brighter, sharper colors on our fabrics. Now that you speak of it—he suggested "Avitex," too!

JOHN: Well, you know, I'm kind of a skeptical guy. But the other day I saw some fabrics that had been treated with "Avitex" finishing agents—and believe me, you could see how the drape, fullness of hand and sharpness of color had been stepped up. That set me to thinking. Then I ran across this ad today . . .

BILL: Says here in the ad that "Avitex" treated fabrics resist air oxidation. No danger of yellowing, rancidity, or unpleasant odors, even over a long period of time. Why, that alone should make customers want our fabrics! What do you say we have a Du Pont representative come in and tell us about "Avitex"?

. . .

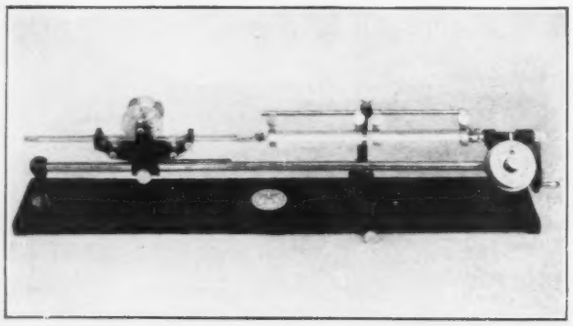
Our technical staff is at your *service. Feel free to write.*

E. I. DU PONT DE NEMOURS & CO. (INC.), FINE CHEMICALS DIV., WILMINGTON, DELAWARE

Sales Offices: Boston, Mass., Charlotte, N. C., Chicago, Ill., New York, N. Y., Philadelphia, Pa., Providence, R. I., and San Francisco, Calif. Represented in Canada by Canadian Industries, Ltd., Box 10, Montreal, Quebec, and 372 Bay Street, Toronto, Ont.

SCOTT

HENRY L. SCOTT CO.
Providence, R. I.
U. S. A.
OFFERS



The least expensive complete twist counter on the market today.

TESTERS

WHITMAN Yarns

ARLINGTON MILLS
LAWRENCE, MASS

CRAMERTON MILLS
CRAMERTON, N. C.

INGRAM SPINNING CO.
NASHVILLE, TENN.

MONOMAC SPINNING CO.
LAWRENCE, MASS.

NONQUITT MILLS
NEW BEDFORD, MASS.

WILLIAM WHITMAN COMPANY, INC.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

TEXTILE MILL NEWS

Cotton Mill News

Callaway Mills, La Grange, Ga., have awarded contract to Newman Construction Co., La Grange, for one-story addition to Elm City plant, 70 x 83 ft., for expansion in bleachery.

Bibb Mfg. Co., Macon, Ga., has placed an order for 47 Abbott Machine Co. winders, totalling approximately 4,700 spindles. These winders are being installed as fast as received.

Morgan Cotton Mills, Millen, Ga., were sold at auction on Oct. 26 to W. E. Alwood for $10,200.

Social Circle (Ga.) **Cotton Mills** are undergoing modernization including installation of eight Whitin cards, eight Saco-Lowell drawing frames, two Saco-Lowell lap winders, seven Woonsocket long-draft roving frames, 16 long-draft spinning frames and one Barber-Colman spooler and warper.

West Point (Ga.) Mfg. Co. has recently installed Barber-Colman high-speed spoolers and warpers. All plants are now running on long-draft roving and spinning. X-model Draper looms are replacing older equipment. Carding and spinning rooms at Shawmut are equipped with a new lighting system, and the jacquard looms at Riverview are lighted by fluorescent lamps. In addition to new buildings under construction at Fairfax and Langdale, a coagulating basin for filter plant is being built.

Booth Mill, New Bedford, Mass., has been subject of an effort to purchase by a local group interested in keeping the plant as an operating unit in the face of liquidation by RFC. The mill was sold to a Fall River group which in turn gave an option to the local group.

Hathaway Mill, New Bedford, Mass.—Floors of the weaving room are being reinforced to take care of high-speed looms recently installed.

General Webbings Co., Springfield, Mass., will not be foreclosed by RFC., Benedict Gordon, president of the company, said. Arrangements are being made with the RFC to continue the business.

Chicopee Mfg. Co. has doubled production and increased number of employees to 700, at Manchester, N. H., plant. Considerable new machinery is being installed.

Johnson & Johnson, North Brunswick, N. J., has a local site of 160 acres, and will erect thereon a new plant costing $600,000.

Bladenboro (N. C.) **Mills** have ordered from Borne Scrymser Co. a cotton oil spraying system.

Erlanger (N. C.) **Cotton Mills** have installed the "Tintinol Process," for tinting rayon, and equipped their cotton blending system with Borne Scrymser's oil spraying device.

Parkdale Mills, Inc., Gastonia, N. C., are building an addition. The company recently redecorated and remodelled its office building and repaired its village.

Oakdale Cotton Mills, Jamestown, N. C., have recently installed a new Whitin Spirawhirl opening machine.

Kinston (N. C.) **Textile Mills** which were advertised for sale Nov. 1 have been bought by A. L. Thurston, New York, with an offer of $81,100.

Corriher Mills Co.'s new addition at Landis, N. C., which will double its capacity, is nearing completion. Eighty new cards and 8,000 new spindles will be installed together with the latest type lighting.

Raeford Mills, Inc., Laurel Hill, N. C., has been chartered to manufacture and sell cotton yarns, cotton cloth and other textiles. Capital stock is 1,000 shares; incorporators: Edwin Morgan, Elise Morgan and James C. McKinon, all of Laurinburg.

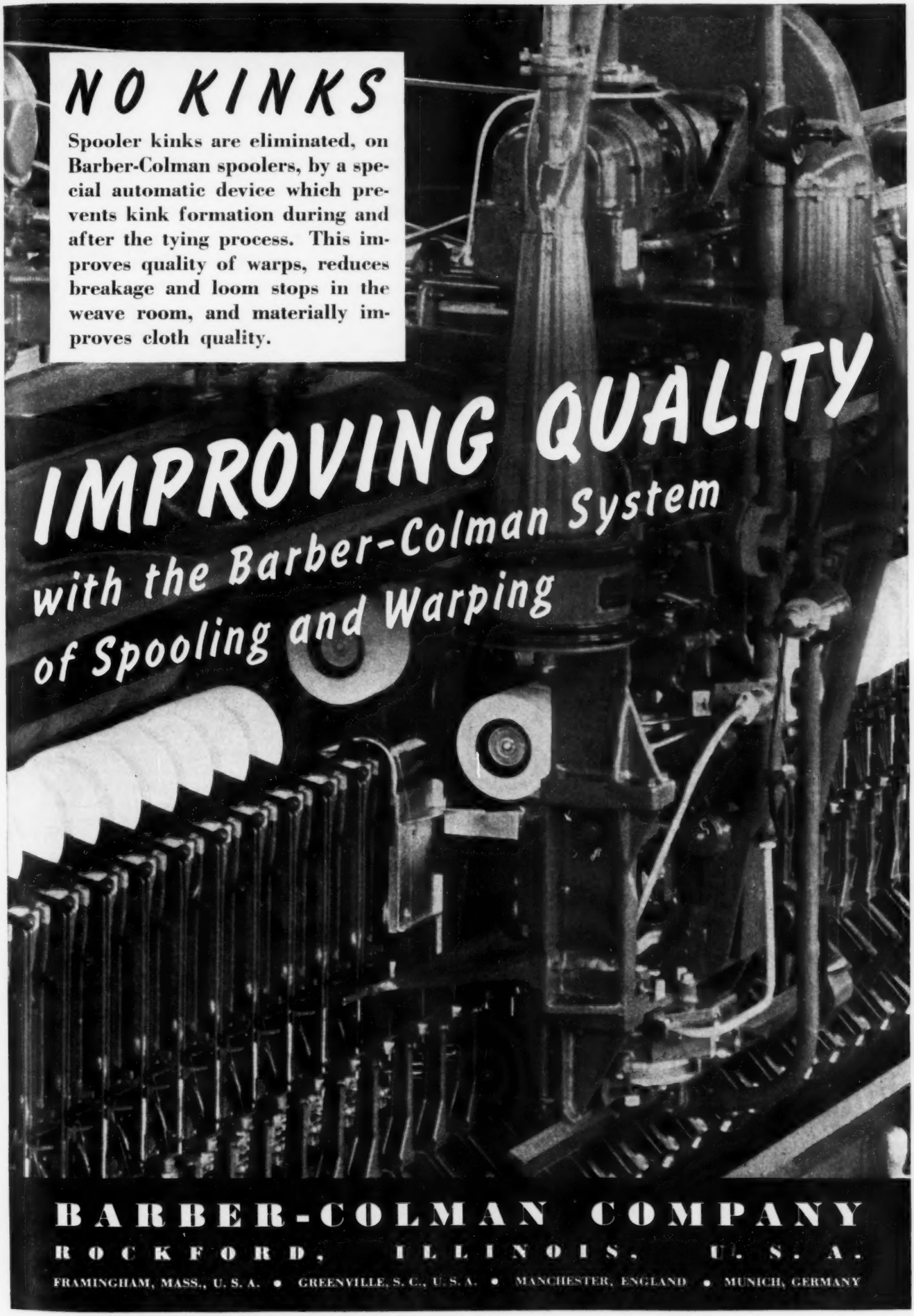
Scotland Sheeting Mills, Inc., Laurinburg, N. C., has recently been organized with capital of 2,000 shares. Incorporators: Edwin Morgan, Holbert Jones and John F. McNair, Jr.

Robeson Textiles, Inc., St. Pauls, N. C., has been granted a charter to engage in the manufacture of yarns, cloth and textile fabrics.

Sellers Mfg. Co., Saxapahaw, N. C., has purchased the Sapona Cotton Mills, Inc., Cedar Falls, N. C., effective Nov. 1. The Sapona will retain ownership of the silk throwing plant, while the cotton mill and 45 dwellings and water rights go to Sellers.

Philip Senft has leased a building of the former Ajax Cigar Co., North York, Pa., for occupancy as a plant on braid.

American Textile Co., Pittsburgh, Pa., has closed bids for new two-story mill, 120 x 312 ft., at Carson and War Sts., with foundations for a third


NO KINKS
Spooler kinks are eliminated, on Barber-Colman spoolers, by a special automatic device which prevents kink formation during and after the tying process. This improves quality of warps, reduces breakage and loom stops in the weave room, and materially improves cloth quality.
IMPROVING QUALITY
with the Barber-Colman System
of Spooling and Warping
BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS, U. S. A.
FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

FADE-OMETER Color Test

Here Illustrated

● This dyed purple fabric was exposed in steps in a Fade-Ometer. Side strip is unexposed color; A to F are consecutive exposures.

A had	3	Fade-Ometer	Hours	
B "	6	"	"	"
C "	9	"	"	"
D "	12	"	"	"
E "	15	"	"	"
F "	18	"	"	"

The Fade-Ometer shows you in a few hours just how any dyeings will act when subjected to regular usage in sunlight.

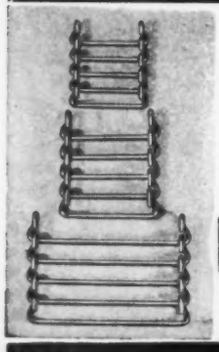
Launder-Ometer will tell the other story. How will a fabric wash? Will it stand the strain of commercial and domestic laundering?

Write for Fade-Ometer and Launder-Ometer catalogs

ATLAS ELECTRIC DEVICES CO.
371 W. Superior Street • Chicago

FADE-OMETER *Accelerated Sunlight*
LAUNDER-OMETER *Accelerated Washing*

OPPORTUNITIES
TO IMPROVE YOUR PRODUCT AND SAVE YOUR MONEY . . .



NARROWING CHAIN
Accurately made from high grade material—built to last and to hold its shape.

SINKER HEAD SLOT CUTTERS
The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

Send for bulletin giving full details on these and other products.

THE **SINKER** WITH THE **HARDENED THROAT** PATENTED AND THE **HARD BUTT**

GIVES YOU..

ESS BREAKAGE
ONGER SERVICE
OWER OPERATING COST
ONGER UNIFORMITY OF PRODUCT

THOMAS & SKINNER
STEEL PRODUCTS COMPANY
1119 East 23rd Street — Indianapolis, Indiana

story at later date. Cost over $80,000, with equipment. C. A. Lake is architect.

Valley Lace Co., West Warwick, R. I.. has begun one-story addition, 40 x 125 ft., for which general contract was let recently to D. H. Sprout, Pawtucket, R. I., to cost close to $35,000, with equipment.

Appleton Co., Anderson, S. C., has installed a Saco-Lowell blending heater in the opening room, long-draft Whitin roving, 58,000 spindles Whitin long-draft spinning, 300 X-model Draper looms and a new Morrison Machine Co. Sanforizer.

Gossett Mills offices will be moved from Anderson, S. C., to Charlotte, N. C., it was announced by B. B. Gossett, president. J. W. Wood, general manager of the Gossett chain of mills in the Carolinas and Virginia, has been transferred from Anderson to Charlotte.

Marlboro Cotton Mills, Bennettsville, S. C., may be leased to a New York group for a 3 to 5 year period.

Drayton (S. C.) **Mills** are constructing new opening room and addition to office.

Brandon Corp., Greenville, S. C., reports a net profit of $36,179 for fiscal year ending Aug. 31, 1939, compared with net loss of $319,456 in preceding year.

Inman (S. C.) **Mills** plan one-story addition, 90 x 172 ft., to be used as a cloth room. Cost estimated over $40,000.

Pacific Mills, Lyman, S. C., have awarded contract to C. M. Guest & Sons, Inc., Greensboro, N. C., for two additions for warehouse service, three-story, 85 x 100 ft., and two-story, 72 x 192 ft., respectively. Cost about $100,000, with equipment.

Spartan Mills, Spartanburg, S. C., has made an additional installation of 50,000 Saco-Lowell long-draft spindles following the first installation of 36,000 some time ago. The company has 78 X-model Draper looms under order to be installed early in 1940. The humidifying system in the card room and No. 2 spinning room has been revamped and additional American Moistening heads have been installed.

South Boston (Va.) **Factory Corp.** will construct an addition to its plant to cost $13,000. Plant is occupied by South Boston Weaving Corp.

Washington Mills Co., Fries, Va., has installed 40 Whitin inter-draft roving machines. There has also been installed an Abington card-cleaning outfit and a Bahnson air-change unit in the weave room. The entire lighting system has been revamped.

Caldwell Linen Mills, Iroquois, Ont., has prepared plants for a $20,000 addition. The new building will be one story, 98 x 140 ft., concrete foundation, steel frame, block walls and concrete flooring. Burgess & Gardner, of Ottawa, are the architects.

Wool Mill News

Assawaga Mills, Dayville, Conn., have been acquired by William B. Prym Co., Long Island City, N. Y., and latter is moving its machinery thither.

Moderation Mfg. Co., West Buxton, Me., recently established woolen mill in building owned by Cumberland County Power & Light Co., and operated by J. R. Loper, was destroyed by fire, Oct. 3, with loss estimated at $30,000.

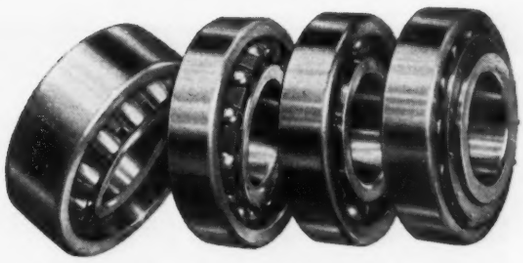
Goodall Worsted Co. reports net loss for year ended July 31 of $156,704 compared with net profit of $36,879 for previous year.

Farr Alpaca Co., Holyoke, Mass., including the cotton division, finishing plant, worsted and weaving departments, will be operating with a 1,500 force within perhaps two months, it was predicted, as a result of important changes in the directorate. Edwin Farnham Greene, prominent for many years in the textile industry, was elected chairman on Oct. 18 and the resignation of two members of the board, Leon M. Yoerg and Emerson Gaylord, were accepted. Mr. Greene and Elliott E. Berkwit, both of New York, were elected to fill the vacancies. Reported sale to Berkshire Fine Spinning Associates, seems to have been shelved.

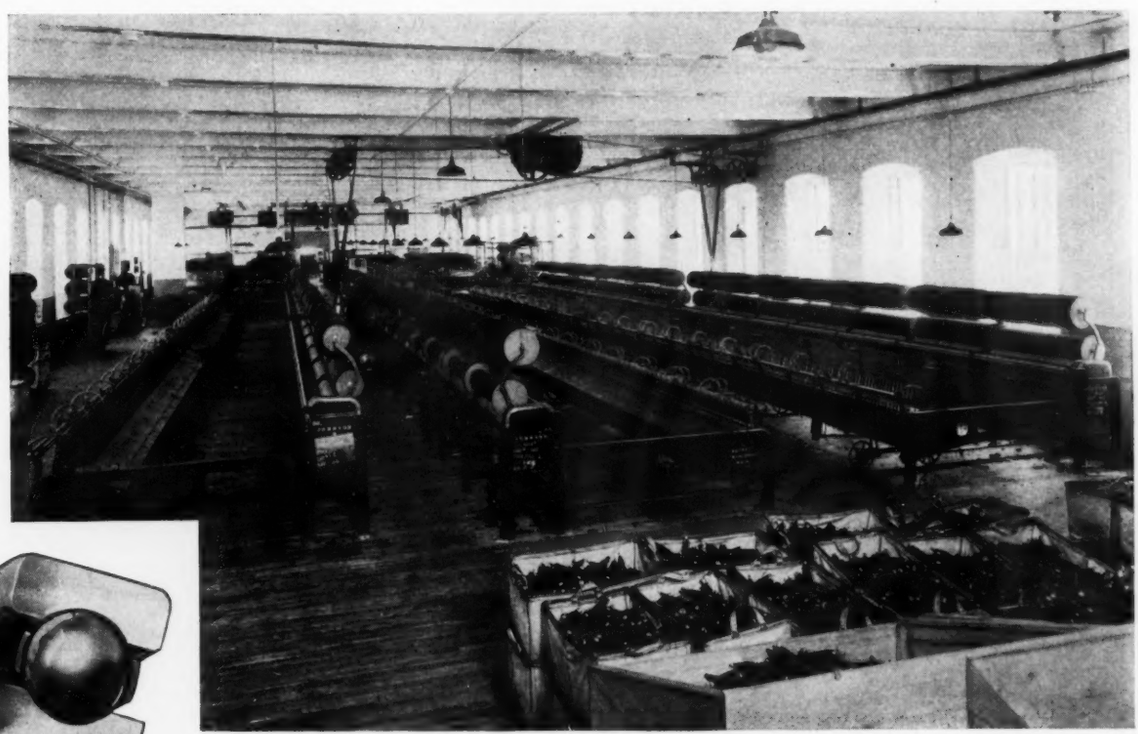
Hodges Carpet Co., Indian Orchard, Mass., has filed in the Federal District Court in Boston, petition to effect an arrangement with creditors. It lists liabilities of $249,057 and assets of $507,875. Sale of the plant by auction has been postponed.

Pascagoula (Miss.) **Woolen Mills** are securing financing through a bond issue of $75,000 authorized by Mississippi Industrial Commission for Jackson County, the proceeds to be used for expansion and improvements.

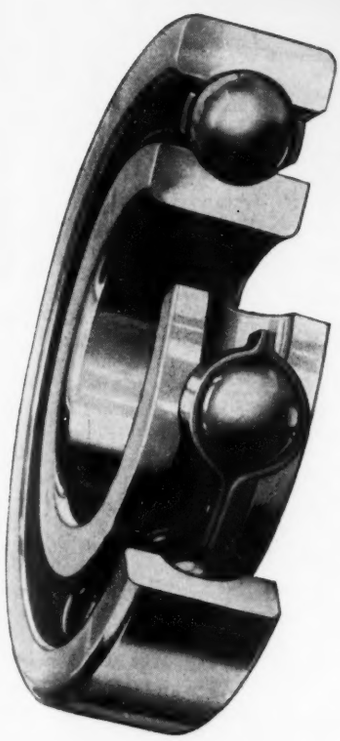
Bigelow - Sanford Carpet Co., Inc., Amsterdam, N. Y., has disposed of the machinery in its local 10,000-spindle cotton yarn mill, and will purchase its yarn requirements of 8/3 carpet warps in the future. Equipment has been purchased by interests in the



GIANT PACKAGE MULES ARE AS MODERN AS THE BEARINGS ON THEIR MOST IMPORTANT ROTATING PARTS



● *Built by Johnson & Bassett, Inc.*



SKF-EQUIPPED SHAFTS MEET TODAY'S DEMANDS FOR HIGH SPEEDS ON TEXTILE MACHINERY OF ALL KINDS

● Modern machines that produce today's marvelous textiles leave old production records in their wake. For their shafts, moving smoothly on dependable SKF Bearings, speed up newer and better ways of doing things.

Typical of the SKF-equipped machines are these Giant Package Mules. High speeds are assured by SKF accuracy and full load carrying capacity. Labor is saved and production delays are eliminated because machine life is never cut short by bearing trouble. Lubrication costs are stepped down to a minimum because a little lubricant lasts a long time.

You, too, can give your production a boost by selecting SKF Bearings. More than 3000 SKF Bearing types and sizes are at your service. 4419

SKF
Ball and Roller Bearings

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

The SPINNING RING *with*

Vitritex finish

DURABLE • GLASS SMOOTH
TARNISH-RESISTANT SURFACE

Write for bulletin

PAWTUCKET SPINNING RING CO.
(Subsidiary of Saco-Lowell Shops)
CENTRAL FALLS • RHODE ISLAND

BARNES TEXTILE ASSOCIATES

CONSULTING ENGINEERS
TO
THE TEXTILE INDUSTRY
FOR
OVER 30 YEARS

OPERATING METHODS
MECHANICAL SURVEYS
COST METHODS
PRACTICAL BUDGETS
CREATIVE COUNSEL
SPECIAL PROBLEMS

10 HIGH STREET, BOSTON, MASS.
PHONE - LIBERTY 1407

South, and will be removed to that section.

Myers - Lippman Wool Stock Co., New York, an outgrowth of the former S. Rawitzer & Co., for 41 years at 285 West Broadway, has moved to more modern quarters at 20-26 North Moore St.

Oscar D. Sides, Mt. Airy, N. C., is erecting a 41 x 140 ft., two-story mill to house machinery for wool blanket manufacture.

Erben-Harding Co., Tacony, Pa., has sold its French system spinning totaling 3,200 spindles for export to Mexico. Its 16,000 Bradford spindles are operating full time.

Paragon Worsted Co., Providence, R. I., has begun erection of two-story and basement addition, 75 x 125 ft.; cost estimated over $85,000, with equipment. Completion is scheduled early in 1940.

Star Woolen Mills, South Pittsburg, Tenn., have begun operations with 45 employees. The company, whose headquarters are still in Cohoes, N. Y., took over the old Aycock Hosiery Mill building. H. H. Freed is general manager at the plant.

West Coast Woolen Mills, Ltd., Vancouver, B. C., are erecting a one-story, 87 x 43 ft. addition to their plant at 440 Clark Drive.

Rayon & Silk Mill News

Cheney Bros., Manchester, Conn., will erect a 50 ft. tower in Glastonbury to test parachutes for which they will be making cloth.

Bethel (Conn.) **Silk Co.** will remove to Elmira, N. Y. Company plans to locate in the former A. & R. Silk Mill building at 5th St., and Madison Ave., Elmira. Epstein Underwear Co., Scranton, Pa., may be consolidated with the Bethel organization in Elmira.

Hartford Rayon Corp., Rocky Hill, Conn., has work under way on two one-story additions, to be used for salt reclaiming and for storage service. Erection contract has been let to Denis O'Brien & Sons, Hartford. Cost about $65,000, with equipment.

Majestic Weaving Co., Inc., New Bedford, Mass., newly organized, has leased space in Nashawena Mills and is installing 80 looms. The firm plans to double the equipment as conditions warrant. Burgoyne Wooley, Jr., associated with his father in Burgoyne Silk Mill, is treasurer; Maurice Antkies, New York converter, president; Harry Alman of the Columbia Weaving Co., secretary.

Rainbow Weaving Co., New York, has leased Farr B. shed, Holyoke, and Samuel Schneider, treasurer, announces operations soon. He has bought 200 looms for fine rayon weaving, and will employ 75.

Greenville (N. H.) **Mills, Inc.,** recently organized, have taken over former local Denim Mills property, and will modernize and equip for production of rayon fabrics. Lyman W. Gale is vice-president of new company; and A. Clinton Swift, secretary and treasurer.

Stevens Spinning Co., Manchester, N. H., has sublet space to a weaver of rayon.

Herman Meyer has started operations in a new brick factory in South Danville, N. H., after losing his chenille plant in a fire in Danville a few months ago.

Central Falls (N. C.), **Mfg. Co.,** unit of Burlington Mills Co., will install 300 additional looms in a large addition now under construction.

Carter Fabrics Corp., Greensboro, N. C., has plans for the erection of a subsidiary unit at South Boston, Va. The mill will be modern in every respect with basic equipment of 500 X-model Draper looms.

Cascade Rayon Mills, Mooresville, N. C., will build three additions to be completed by the end of the year.

Cleveland Cloth Mills, Shelby, N. C., are constructing a new addition to cost approximately $300,000.

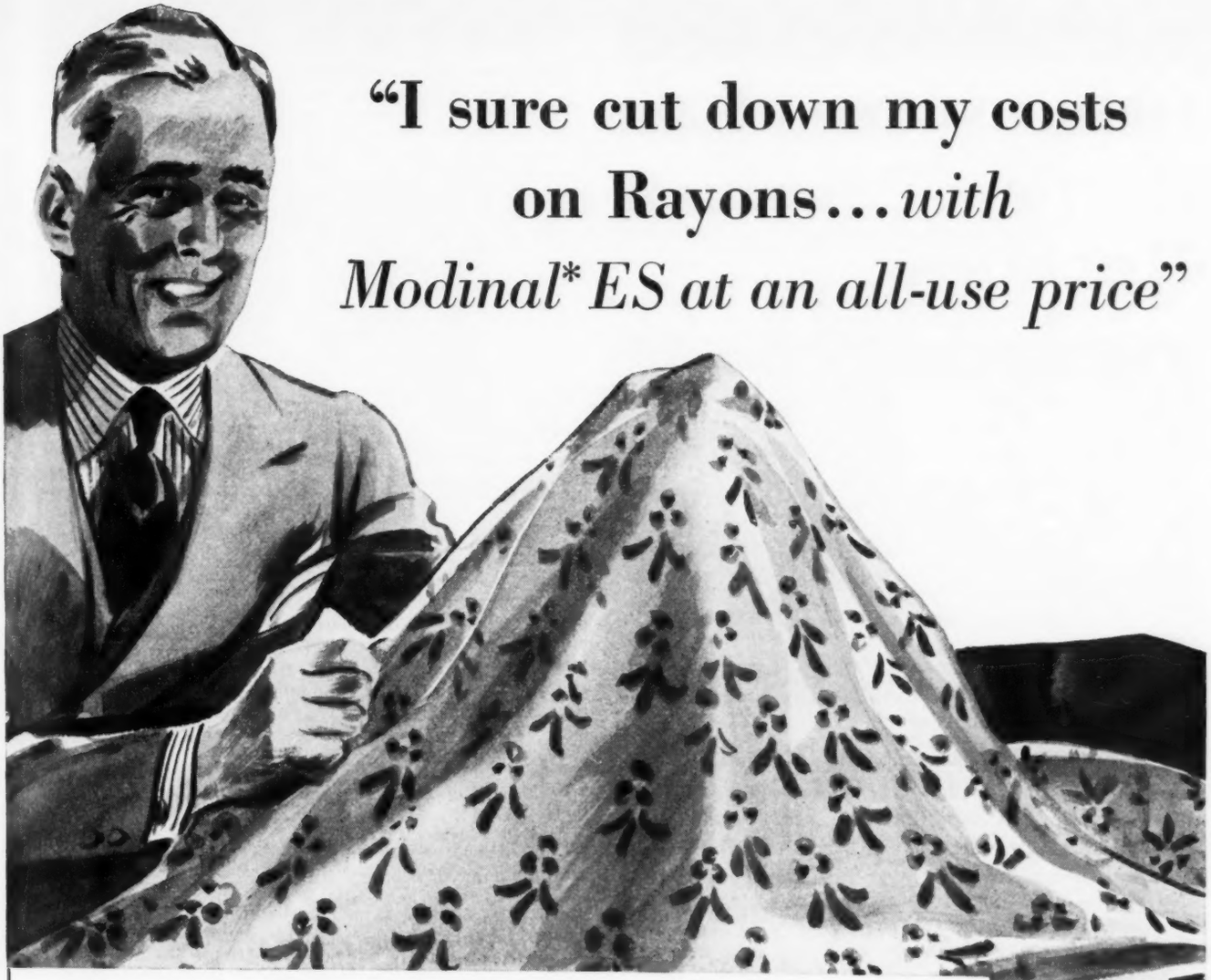
Union Ribbon Co., Front St. and Girard Avenue, Philadelphia, Pa., was damaged by fire on Oct. 14, with a loss of $100,000.

Columbia Ribbon Co., Williamsport, Pa., plant was sold at auction on Oct. 31. The plant at Paterson, N. J., was sold on Nov. 2. Equipment included 119 ribbon looms.

Phoenix Textile Mills, Inc., Phenix, R. I., set up by Robert W. Cohen with machinery brought north from Spray, N. C., is now in operation on upholstery plush. Mr. Cohen was formerly a partner in Blackstone Plush Co., Clinton, Mass., acting as treasurer, general manager and New England sales representative.

Englewood (Tenn.) **Mfg. Co.,** was purchased by A. T. Cochran of Rockwood, Tenn., for $11,000 at auction before Sam J. McAllester of Chattanooga, Tenn., Federal referee in bankruptcy. The bid was confirmed Oct. 19.

Celanese Corp., New York, N. Y., is considering enlarge-



"I sure cut down my costs on Rayons... *with Modinal* ES at an all-use price*"

YOU CAN reduce production costs—get better-quality rayons by scouring with Modinal ES! Modinal ES used in the wetting-out baths assists the action of the desizing materials. Aids greatly in preparing your fabrics for further processing. Modinal ES increases production by cutting rinsing time. It is particularly valuable in the single bath method of scouring and dyeing, where an economical and time-saving combination of processes can be effected with improved results.

Ask a representative of any of the sales agents listed below for complete information about Modinal ES.

GARDINOL CORP.

General Office • Wilmington, Del.

SALES AGENTS:

E. I. DU PONT DE NEMOURS & CO. (INC.), WILMINGTON, DEL.
PROCTER & GAMBLE DISTRIBUTING CO., CINCINNATI, OHIO

"Modinal" is the trade-mark used by the Gardinol Corporation to designate a group of its fatty alcohol sulfates, of which there are several types, each having special properties that meet particular conditions and requirements.

PARAMOUNT Dual Heat Hosiery Finishing Machine

CREATING Incomparable Quality in Hosiery Finishing and Establishing Production Figures that are truly amazing, the Paramount Dual Heat Machine will revolutionize and simplify your hosiery drying and finishing methods.

Compare this Machine with your present equipment. You will find that it requires less square feet of floor space per dozen than any existing method of finishing; less steam consumption — heating is direct; less power — a one-quarter horsepower motor operates the entire machine; less investment per dozen — reasonably priced; less upkeep — built to render years of service; and production possibilities with quality work that cannot be challenged.

Machines will pay for themselves in direct savings to you.

WRITE FOR DESCRIPTIVE BOOKLET

Paramount Service With All Paramount Products

Paramount Textile Machinery Company

Main Sales Office

538 S. Wells St., Chicago, Ill.

ment of new mill now in course of erection at Pearisburg, Va., scheduled for completion in the spring of 1940, and will proceed with additional units at that time. It is proposed to advance present rated capacity about 50% with cost close to $5,000,000. Present mill will represent an investment of about $10,000,000.

Burlington (Wis.) **Mills, Inc.,** suffered several thousand dollars damage when fire started in a drying machine Sept. 29. Much of the damage was said to have been caused by water.

Fine Silk Mills, Ltd., recently incorporated for $150,000, has purchased the land, buildings, and equipment of Dominion Rayon Weaving Co. Ltd., Midland, Ont. Officers of the new company include Jos. Schober, president; A. S. Tindale, vice-president. Machinery includes 96 silk and rayon looms.

Knitting Mill News

Warren R. Spivey, owner and operator of the Waldridge Knitting Mill, Helena, Ark., has purchased a building on Arkansas Street, in which the mill will soon be moved.

Shannon Hosiery Mill, Columbus, Ga., has installed nine 45-gage machines.

Bryan Hosiery Mill, Quitman, Ga., has plans for enlargement of the mill building.

Corinth (Miss.) **Hosiery Mills** have filed petition for corporate reorganization under Chap. 10 of the Bankruptcy Act.

Clark Mill, Jackson Miss., recently organized, has begun the manufacture of silk hosiery.

Julius Kayser & Co. reports for quarter ended Sept. 30 a net profit of $115,790 against $178,181 profit for the like quarter of 1938.

Thermos Mills sold at auction its plant at West Sand Lake, N. Y., on Nov. 2. The plant included real estate and a 2,000-spindle woolen yarn mill and various finishing machines.

Samuel G. Camann, Laconia, N. H., is reported planning a new hosiery mill in the South representing an investment of $650,000.

Standard Hosiery Mills, Alamance, N. C., has added a 14,700 sq.ft. addition to its full-fashioned hosiery department and equipped it with Parks-Cramer air-conditioning and G.E. fluorescent lighting; 30 Textile Machine Works machines are being added. In the seamless department 75 new Scott & Williams machines have been installed. New finishing equipment is also being installed at the plant. All sales are now being handled by Louis A. Wagner from the company's new office at 271 Church St., New York.

Asheboro (N. C.) **Hosiery Mill** will add 12 new full-fashioned knitting machines which will bring their total equipment to 32.

W. Bowman Sanders, Burlington, N. C., general manager of the Full-Knit Hosiery Co. and Royal Dye Works, announced Oct. 23 that contract for construction of a plant 115 x 300 ft., located on a 6-acre tract just off Highway No. 70 and west of the Carolina Rayon property, had been awarded to H. F. Mitchell. The expansion will provide larger quarters for each of the units and will place them under one roof.

May Hosiery Mills, Burlington, N. C., has installed 10 Proctor & Schwartz automatic boarding machines. In the gray inspection department 21 expanding forms from E. R. Ammon Co. have been installed. The finish inspection department is now lighted with G.E. fluorescent lamps.

McEwen Knitting Co., Burlington, N. C., is constructing a two-story brick addition to cost $25,000.

Wilson Hosiery Mills, Haw River, N. C., is the new concern which will operate the plant formerly owned by Riverside Hosiery Mills.

Brown Hosiery Mills, Hickory, N. C., have added six new machines in each department.

Holler Hosiery Mills, Hickory, N. C., have moved to their new location in the Holler building.

Whisnant Hosiery Mills, Hickory, N. C., have practically doubled the floor space of the mill; 40 new spiral knitting machines have been placed in operation.

Terry Hosiery Mills, Inc., High Point, N. C., has had C. H. Caldwell named as receiver.

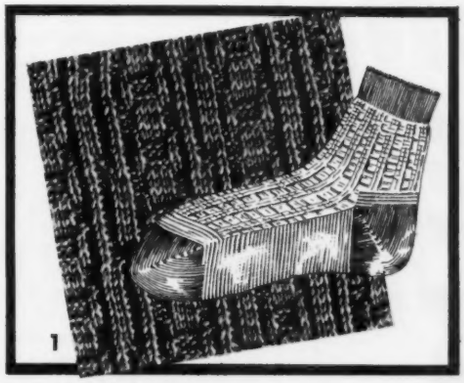
Lincoln Knitting Mills, Maiden, N. C., will be sold in liquidation as result of court order signed Oct. 25.

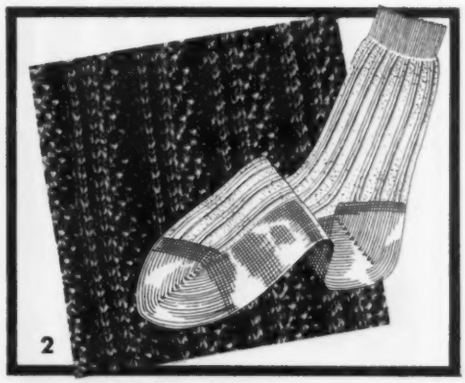
John L. Everett, Jr., Rockingham, N. C., expects to begin the operation of a new hosiery mill early in November. Formerly a manufacturer of rayon and silk socks, he plans to manufacture wool socks.

Dolly Hosiery Mills, Inc., Valdese, N. C., recently organized with capital of $25,000, have leased the local Brinkley Building, and will establish

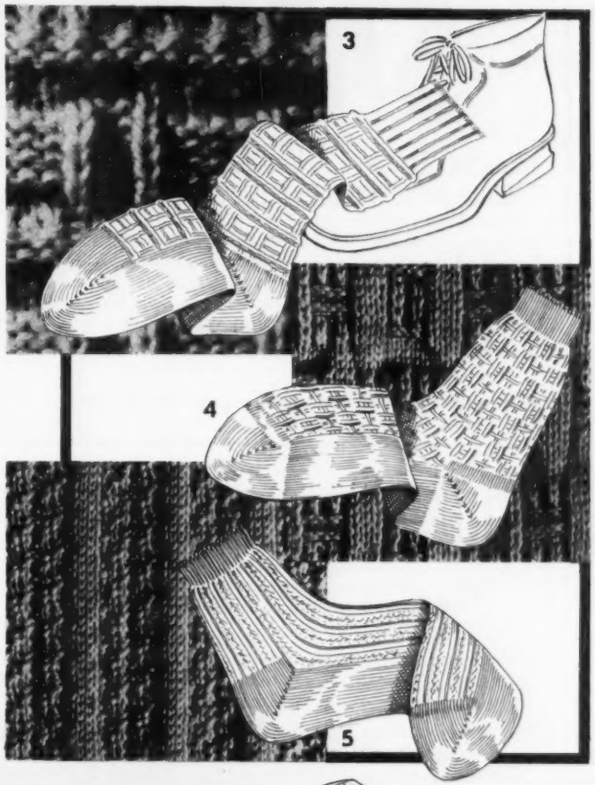
KNITTING CIRCULAR

Bit news of the month in men's hose is the appearance of many new and striking designs and color effects in Links-and-Links items. This type of hosiery is livening up the market as no other merchandise has done in many a season. Stores and shops throughout the Metropolitan area in New York are promoting it energetically. Following are some of the Links-and-Links styles being featured for fall and winter wear—and for the coming spring and summer seasons.



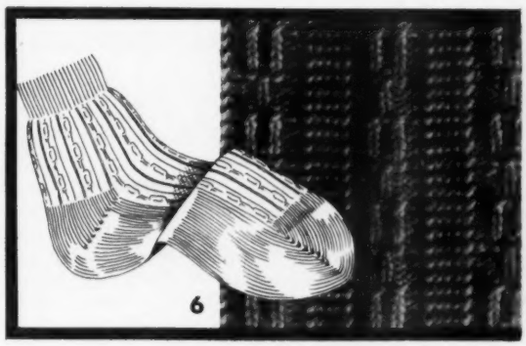


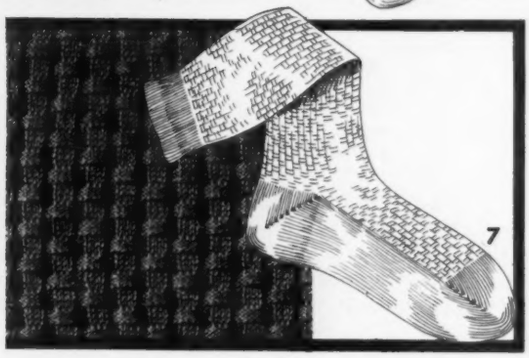
Shown here is one of the many new handsome two-tone Links-and-Links effects. In this sock ribs are spaced wide apart, against a background of bright red-blue. Many shops and department stores are featuring the two-tones in this way—and doing a brisk business. Now, there is still another Links-and-Links development in the offing. This is the three-tone effect. Here three colors, plus a great variety of patterns and ribs are combined to create effects that are entirely new and novel. Shown here is one that has widely spaced double ribs on a speckled background of bright red and blue which gives the sock a striking, almost iridescent luster. Three tones are bound to be popular, and the Knitting Circular calls your attention now—while the field for development is wide open—to the tremendous possibilities they offer your mill for future business.



Links-and-Links hosiery is featured—and featured heavily—in the Suit, Sock and Shoe Wardrobe section of Apparel Arts for September. Here it is suggested not only for town and country during the present season but for ski and northern resort wear—and in light weight numbers for resort wear next spring and summer. First shown is a heavy wool full-length ski sock in natural color. This is very similar to the ski sock featured in Apparel Arts. Next are shown two summer resort Links-and-Links socks that are also very similar to two patterns suggested in Apparel Arts. One is a green and white basket weave type; the other is a plain yellow sock with narrow ribs between which is a mesh-like design.

The assistant buyer of children's hosiery for a leading Fifth Avenue store chose the two socks shown here as outstanding examples of children's Links-and-Links merchandising successes. One is a knee-length basket weave sock. The other best seller from this store is a lisle, angora and rayon anklet in natural color.





The Scott & Williams Links-and-Links Komet Machine is the machine that gives you *all* of this sales-producing, market-building merchandising.

SCOTT & WILLIAMS, INC., 40 Worth Street, New York, N. Y.

Established 1865

RYERSON CERTIFIED STEELS

Large Stocks... Uniform High Quality... Immediate Shipment... Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

MODERNIZE WITH THESE

IMPORTANT NEW IMPROVEMENTS

Rayon Shear. **Based on identical principles, including the self-contained motor driven revolvers, which have made CMR shear famous.**

CMR Cloth-Room Shear. **New wick-type oiler, feeding the revolvers by capillary attraction, avoids excessive lubrication. Simple, self-contained ball-bearing vibrate for revolvers, with totally inclosed cam groove.**

Inspecting Machine. **Efficient "electric-eye" control for starting and stopping the cloth-propelling motor.**

Rayon Sewing Machine. **New railway model, with Duplex center wind for swivel grip blades or shells. Rapidly prepares large cloth rolls for processing.**

Cloth-Folding Machine. **Gear-motor drive direct to crankshaft eliminates pulleys and belts under table.**

Oilless Spreader Rolls. **Oil-impregnated wooden slats and whirls prevent liquid-lubrication troubles.**

Stock-Blending Machine. **Self-contained drive utilizes vertical motor.**

Cloth Holders for Sewing. **Cam-type clamps hold very fine cloth for railway machines.**

Fearnaught Picker. **Metal cylinder, workers, and strippers.**

CURTIS & MARBLE MACHINE CO.

WORCESTER, MASS.

new mill for infants' hose. Francis Verreault and Laird Jacobs are heads.

Welcome, N. C., will soon have a new hosiery mill. It will be housed in a building which belongs to A. M. Ripple, now being remodeled. Children's hose will be manufactured and later other lines may be added.

Ames Knitting Co., Boyertown, Pa., is a new knit goods mill in the Erb cigar factory building on the corner of Philadelphia and Reading Avenues. Renovations are now under way and machinery is being installed for men's knit athletic underwear. Floyd A. Singer is owner and operator.

Gail Knitting Co. has leased 12,000 sq.ft. of floor space at 1141 Moss Street, Reading, Pa., for manufacture of sweaters and bathing suits. A total of $40,000 worth of machinery is being installed. Lillian Gelbert of New York is president; S. P. Cohen of New York, secretary and treasurer; Charles S. Hyman of Reading, general manager.

Crammer Knitting Mills, Robesonia, Pa., Harry Crammer, proprietor, is a new mill manufacturing wool sweaters, located in the rear of the Crammer home at 328 West Penn Ave.

Vesta Underwear Co., Providence, R. I., has acquired property of Lebanon Mill Co., Pawtucket, R. I., totaling about 90,000 sq.ft. of floor space, for a stated consideration of $43,000, and will occupy for expansion.

Unity Hosiery Mills, Union, S. C., has secured a charter to manufacture full-fashioned hosiery; capital stock $25,000; officers, E. F. Hartman, president and secretary; R. M. Estes and J. M. Grant, vice-presidents, and H. P. Hartman, treasurer.

Durant (Tenn.) **Mfg. Co.** has installed six additional full-fashioned machines and auxilliary equipment.

Harriman (Tenn.) **Hosiery Mills** have begun superstructure for new three-story addition, to be equipped for increased capacity. Cost estimated over $60,000. It is equipping all its 1,041 circular machines with three-carrier attachments which not only produce "ringless" hosiery but increase production per machine.

Russell-Newman Mfg. Co., Denton, Tex., is a newly organized manufacturer of women's and children's rayon underwear. J. Holford Russell is president.

Galax (Va.) Knitting Co. has purchased 45 of the newest type Scott & Williams wrap machines.

Sale Knitting Co., Martinsville, Va., has constructed a new building at a cost of $15,000, in which addition knitting machines will be installed.

Processing Plant News

Acme Mfg. Co., Atlanta, Ga., has opened a plant at 187 Trinity Ave. for manufacture of oiled silks and rubberized cloth.

William Carter Co., Barnesville, Ga., is building an addition to its finishing department which, including equipment, will cost $25,000.

Midland Print Works, Fall River, Mass., suffered loss of 20,000 yards of goods by fire in a 210-ft. dryer. The Arkwright Corp. occupying lower floors suffered water damage. The two firms' losses may total $100,000.

Mount Hope Finishing Co., North Dighton, Mass., will install additional equipment for finishing marquisettes, for which recent business is said to be very large.

William Willheim Co., Inc., Passaic, N. J., was sold at auction on Oct. 24 and 25. The lightest bulk bid was $150,000 by Consolidated Products Co., New York. The plant had a capacity of 2,000 pieces daily and the machinery included twelve 6-, 8- and 12-color printing machines. Harry B. Haines is trustee in bankruptcy.

Royal Dyeing & Printing Co., a New York corporation, has purchased mill of **Sunbury** (Pa.) **Converting Works** for a reported consideration of $230,000.

Elder Finishing Mills, Burlington, N. C., recently organized, are now operating full-time. Company has capitalization of $100,000.

Perennial Dye & Print Works, West Warwick, R. I., reopened its plant early in October. William Geller is general manager.

Fairforest Finishing Co., Spartanburg, S. C., has work under way on one-story addition, about 14,000 sq. ft. of floor space for which erection contract was let to the Fiske Carter Construction Co. It will be used in part for expansion in dyeing department; cost over $35,000.

Dixie Mercerizing Co., Chattanooga, Tenn., is completing plans for one-story addition to cost close to $55,000. Robert & Co., Atlanta, Ga., are architects and engineers.

Are you having trouble with ordinary set-screws working loose . . . . . ?

More and more mills are finding the answer to this problem in equipping machines with UNBRAKO

SELF-LOCKING HOLLOW SET SCREWS
with the knurled points

By merely setting up the Knurled Point "Unbrako" in the customary way, using only ordinary pressure, you automatically lock them in place. There is no chance that they will vibrate or jar loose. You can be absolutely sure every one is staying in place without the continual need for checking up. There's less maintenance work required where these screws are used and one cause of breakdowns or accidents is definitely eliminated.

"Unbrako" Self-Lockers can be removed if desired, by using the ordinary hex bar wrench, and, of course, the screws can be used any number of times with equal locking effectiveness.

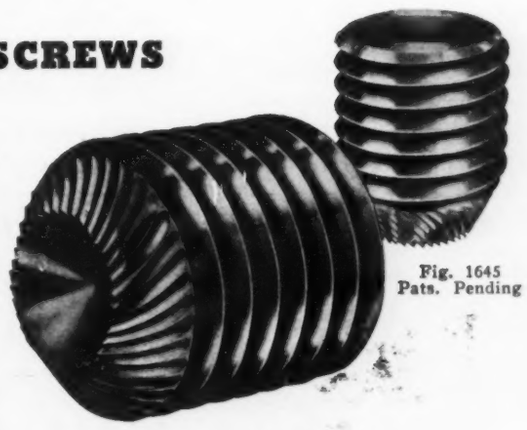


Fig. 1645 Pats. Pending

Why risk further trouble — write today for complete information and samples.

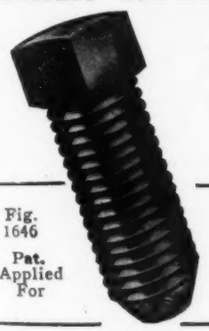


Fig. 1646 Pat. Applied For

"UNBRAKO" SQUARE HEAD SELF-LOCKING SET SCREWS offer this same unfailing protection combined with high strength and accuracy. We'd be glad to send you a sample so you can try them for yourself.

STANDARD PRESSED STEEL CO.

BRANCHES BOSTON DETROIT INDIANAPOLIS

JENKINTOWN, PENNA.

BOX 571

BRANCHES CHICAGO ST. LOUIS SAN FRANCISCO

Why "STAR" BRAND is Textile's NO. 1 SILICATE!

STAR BRAND

YEAR AFTER YEAR for more than a quarter of a century, bleachers and dyers have specified "Star" Brand in their annual contracts. They know that "Star" relieves them of these worries — rust spots—waste in peroxide baths.

The difference, briefly, between commercial silicates and "Star" Brand is uniformity and purity. "Star" is specially purified and remains stable under dilution or heat. You can depend on "Star" giving top performance consistently.

Ask for the "Star" Brand contract offer.

PHILADELPHIA QUARTZ COMPANY

General Offices & Laboratory: 125 S. Third St., Phila., Pa.
Chicago Sales Office: 205 W. Wacker Drive. Stocks in 60 cities.
Sold in Canada by NATIONAL SILICATES LTD., Toronto, Ont.

SILICATES OF SODA

DRUMMOND SOAP

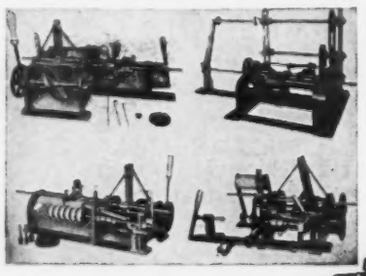
Gives the Softest Feel and Better Handle

- √ Rinses easily and completely.
- √ Saves scouring time and steam costs . . . Improves fulling and scouring operations.
- √ Gives the softest feel and better handle.
- √ Makes colors brighter.

OTHER HIGH GRADE "STANDARD" PRODUCTS

Stanso Palm Oil Curd Soap, Etc. Etc. Etc.

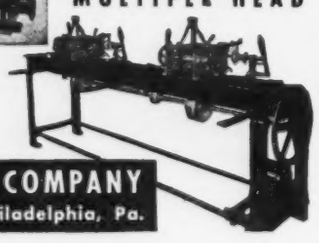
STANDARD SOAP CO. OF CAMDEN
1918 South Sixth Street Camden, New Jersey



SPOOLING MACHINES

SINGLE END
DOUBLE END
CAM TRAVERSE
SCREW TRAVERSE

MULTIPLE HEAD



We manufacture twenty styles of spooling machines for as many material combinations.

FIDELITY MACHINE COMPANY
3909-19 Frankford Ave., Philadelphia, Pa.

This and That

Arlington Mills, Lawrence, Mass. staged an excursion to the New York World's Fair for nearly 800 of its workers. A special train left Lawrence at midnight, Oct. 27, supplemented by another special from Pennsylvania Station, New York, for Flushing Meadows early the next morning. By special arrangement the party was admitted to the grounds at 8:30 a.m. Return to Lawrence was made late Saturday night, Oct. 28.

Miss Catherine Cleveland, of the Cotton-Textile Institute, addressed the Home Economics Club at Rhode Island State College, Kingston, R. I., Nov. 3 and the following day was guest lecturer before the textile and clothing classes there.

Development in Japan of a synthetic fiber derived from coal and lime was reported last month by Dr. Shoki Ri, of Kyoto Imperial University.

Cotton festivals ran riot in the South last month with particular emphasis being placed on those at Greenville, S. C., (see page 69) Camden, S. C., Chattanooga, Tenn., and Clarksdale, Miss.

Pacific Mills, Columbia, S. C., employees have recently organized a union for the avowed and stated purpose of "Driving the CIO out of the State of South Carolina."

Dean Hill, president of the Durene Association of America, who played football at Georgia Tech and who recently served two years as president of the Touchdown Club of New York, is probably claiming that one reason for Cornell's success this year is the fact that the familiar white jerseys worn by the Cornellians are made of Durene yarn.

Taylor R. Durham, secretary of the Southern Hosiery Manufacturing Association, reports that his industry is adjusting itself to the minimum wage requirements which became effective on Sept. 18. These rates are 32½¢ for the seamless division and 40¢ for the full-fashioned division.

British Government is concluding a deal whereby it will buy 148,575,000 lb. of Egyptian cotton.

Sanford (Me.) **Mills** is now the holder of the national safety record for the woolen and worsted industry, having passed 2,335,000 man-hours without a lost-time accident, it was announced last month by John H. Southam, safety director for the company. The record was previously held by American Woolen Co., with 2,330,000 man-hours.

A new project aimed at the development of stronger and more durable cotton textiles will be carried out at Georgia School of Technology, Atlanta, Ga. Seven grades of long-staple cotton developed by the Agricultural College of Georgia, at Athens, will be used.

Representatives of the Institute of Carpet Manufacturers of America and of the National Retail Furniture Dealers Association met on Oct. 18 in New York to hold the first of a series of councils designed to effect reconciliation of views between the industry and the distributing trade.

North Carolina has seen an expansion of its textile industry during the last eight months with 51 new industrial plants established and 66 existing plants constructing additions, according to the State Department of Conservation and Development.

A line of fast-dyed, preshrunk, men's sportswear fabrics in spun rayon, spun-rayon blends, and filament-mixtures was introduced last month by Sayles Finishing Plants, Inc. It is stated that this new line of Sal-a-Shrunk fabrics in Glenfast colors has been tested and approved by the Better Fabrics Testing Bureau.

The lower Rio Grande valley has gone in for Sea Island cotton this year and recently sold its first lot to the Lily Mills of Shelby, N. C. at 30¢ per lb.

North Carolina State College Textile School is moving its equipment to its new four-story building and will have complete installation by the close of this fall term. The school is under way with great enthusiasm this year, having more than 300 students.

Something new for textile plants is their participation in exhibiting for the first time at the 32-year-old Spartanburg County Fair. Spartanburg County textile plants took 6,000 sq. ft. in the educational building for their exhibit to tell the story of manufacturing of cotton from bale to bolt.

At a meeting of the textile division of the metropolitan section of the American Society of Mechanical Engineers, in New York, Nov. 21, C. N. Johnson of Crocker Wheeler Electric Co. will deliver a paper on "Latest Developments in Drives for Textile Machines," and H. B. Heinz of Calco Chemical Co., Inc. will deliver one on "Performance and Characteristics of Dye Jiggs."

PUBLIC LIBRARY
DEC 18 1939

With Either 3 Rings Engaged

or

With Only Two

Draper Patent Bobbins
With Lower Middle Ring
Are
More Firmly Held in the Shuttle Spring
Than Ever Before Possible

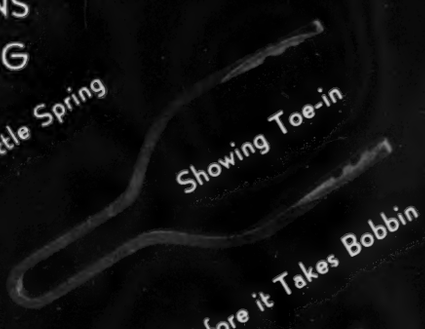
Here's Why!

WITH 3 RINGS ENGAGED—There is No Chance the Bobbin Will Rock on a High Middle Ring

WITH 2 RINGS ENGAGED—The Slight Toe-in of the Shuttle Spring Ends—Necessary to Give Proper Springing to Receive and Hold the Bobbin—Insures a Perfect Hold on the Bottom and Lowered Middle Ring

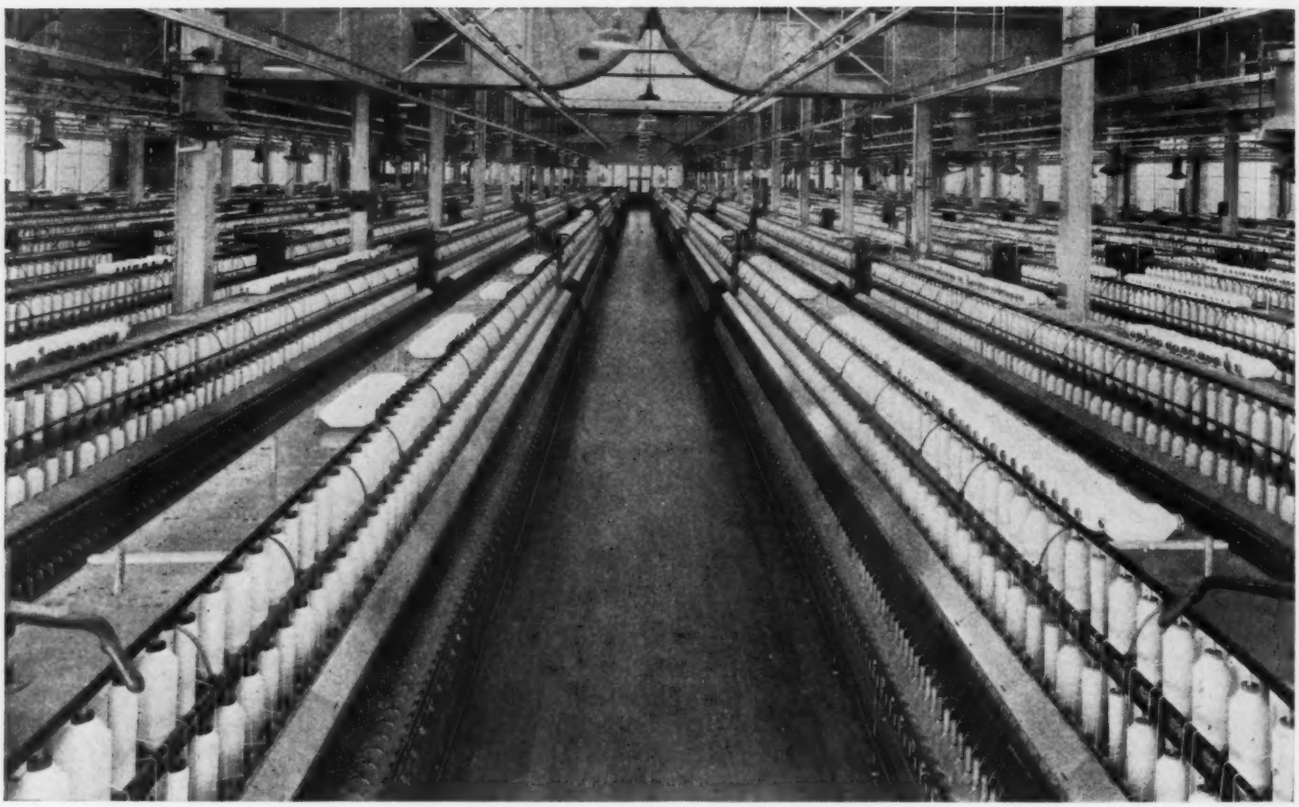
BUY DRAPER BOBBINS
FOR GOOD WEAVING

We Make Warp Bobbins Too



Draper Corporation
Atlanta Hopedale Spartanburg

Here *Comfort* and *Economy* Walk Hand-in-Hand ON FLOORS OF NORTHERN HARD MAPLE



The Mathews Cotton Mill, Greensboro, S. C., floored with Northern Hard Maple

You cut costs "from the ground up" with Hard Maple —and it's easy to see why.

Watch workers—they show fatigue less quickly on resilient Maple, while its warm dry comfort and sanitation guards their health.

Watch machinery—Hard Maple creates no dust injurious to bearing surfaces.

Watch traffic—Both trucks and men move faster with less effort on this smooth-surfaced floor.

Watch monthly costs—for cleaning and for maintenance. Brushing alone keeps Maple clean — lint brushes up easily, doesn't catch. And Hard Maple wears smooth, does not sliver or splinter even under the wear of heavy, steel-castered trucks. Too, Hard Maple simplifies alterations, machinery shifting and renewal.

Watch wear—This flooring's famous for its long wear—its low cost per year of service.

Add these reasons and it's easy to see why scores of textile mills use nothing but Northern Hard Maple —and, like the Mathews Cotton Mill above, find it *most satisfactory in every way.*

For Hard Maple at its finest, they make sure of *Northern* Hard Maple, by specifying trademarked **MFMA*** Flooring, in strips or blocks. *Ask your architect.*

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1793 McCormick Building, Chicago, Illinois

• • •

See our catalog data in Sweet's, Sec. 11/77.
Write for leaflet on heavy-duty finishes for old or new floors.

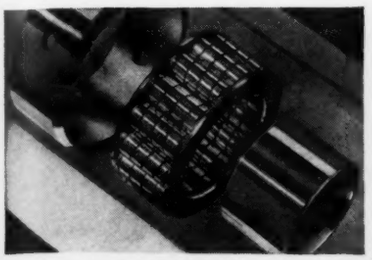
* *The* **MFMA** *trademark, indented and stamped on Maple flooring, guarantees it to be* GENUINE *Northern Hard Maple, graded and* **MFMA** *supervised in accordance with the Association's exacting standards.*

Floor *with* MFMA Maple

REG. U. S. PAT. OFF

(NORTHERN HARD)

"ANTI-FRICTION" LOOMS *Save Power!*



Three-part **HYATT BEARING** of the wound-roller type with heavy load-carrying capacity used in textile looms and other machinery applications.

CROMPTON AND KNOWLES S-3 Shuttle Changing Looms equipped with Hyatt Roller Bearings, in modern textile mill. Texaco Starfak Grease proves highly effective in the lubrication of anti-friction bearings in all types of textile mills.

PHOTOS COURTESY OF HYATT BEARINGS DIVISION, G. M. SALES CORP.

PHOTO COURTESY OF CROMPTON & KNOWLES LOOM WORKS

for SPINDLE LUBRICATION

A new scientifically refined spindle oil from the heart of selected crudes, designed especially to reduce power consumption over long periods, with freedom from gumming and fogging.

TEXACO SPINDURA OIL AA

PERFECTED LUBRICATION FOR TEXTILE SPINDLES

TO GAIN the full advantage of ball and roller bearings in looms and other equipment, an ever-growing number of textile mills are lubricating them with Texaco Starfak Grease.

With Texaco Starfak Grease, starting and running torque is lower. This lubricant is stable, resists oxidation and gum formation through long periods of service. It does not separate or leak out, but maintains its lubricating qualities over wide ranges of temperature.

Experienced lubrication engineers trained in the selection and application of Texaco Textile Lubricants will be glad to demonstrate that savings can be made with Texaco Perfected Lubrication.

For prompt engineering service and deliveries, phone the nearest of our 2279 warehouses in the U. S., or write: The Texas Company, 135 E. 42nd St., New York, N. Y.

Texaco Dealers invite you to tune in The Texaco Star Theatre—a full hour of all-star entertainment—Every Wednesday Night—Columbia Network—9:00 E.S.T., 8:00 C.S.T., 7:00 M.S.T., 6:00 P.S.T.

TEXACO

Starfak Grease

H. G. LORD Comments on

Styling Textile Machinery

The time was, not so many years ago, when a textile machine was a standard and almost static piece of equipment. The model was seldom changed. When some modification was suggested to meet new conditions, the idea was received with skepticism and tried out reluctantly, if at all. If the textile mill man wanted to bring out some new type of fabric or change the structure of yarn or cloth, he had to work out for himself the necessary ways and gadgets to accomplish his purpose and, naturally, if he succeeded in doing it, he did not want to tell anybody else—least of all the machine builder—how he did it. I have listened spellbound to oldtimers, like Sam Driver, Robert Henderson and Cris Donlevy, tell of ingenious methods and various contraptions by which they accomplished the results they wished to produce on the standard type of machine.

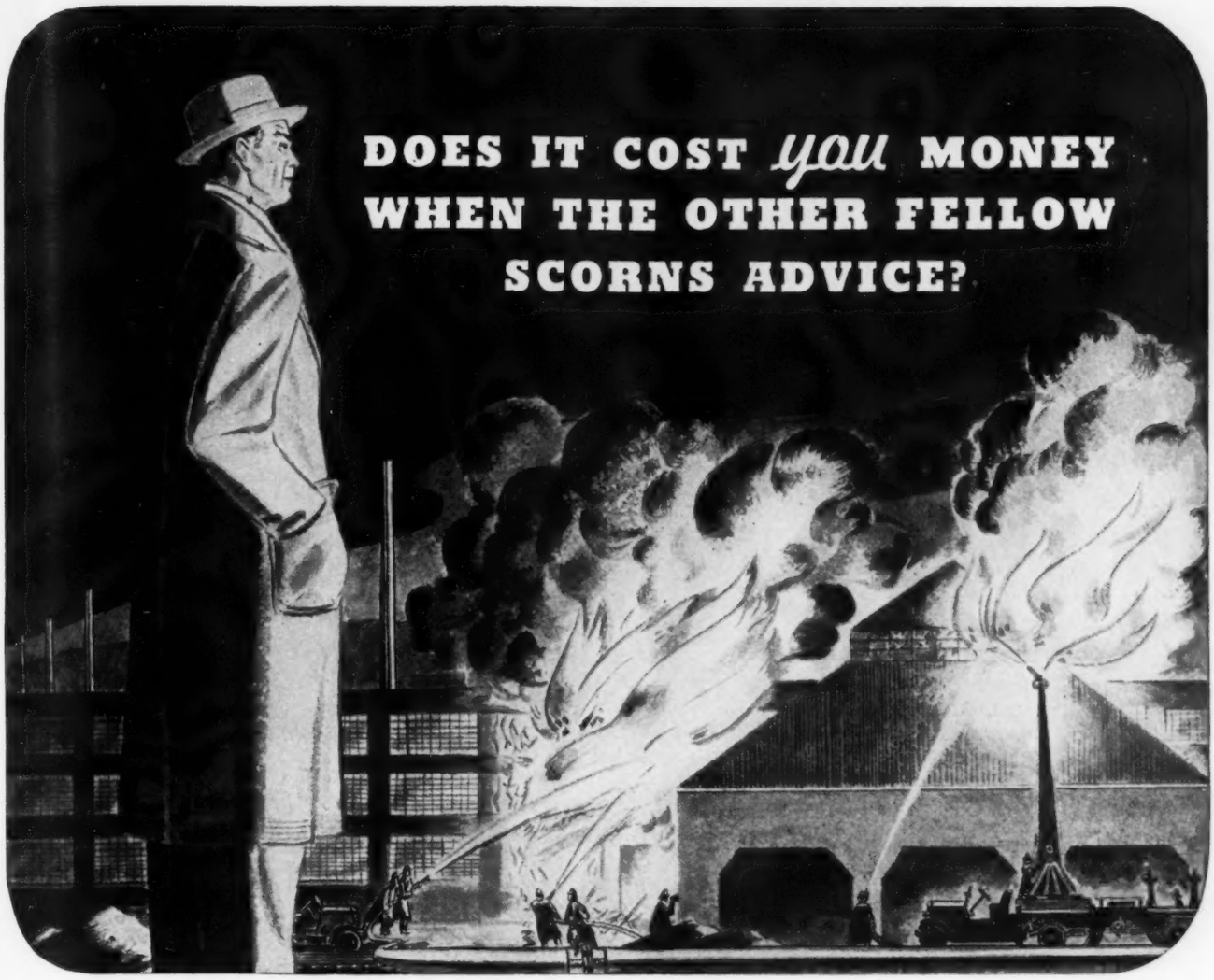
There is certainly a big change today. The machine business has become almost as much of a style business as the manufacture of textile fabrics. Change in fashions puts new problems up to the textile manufacturer—coarser or finer yarns, more or less twist, various complications in weave construction, new problems for the dye house and the finishing room, etc.; all of these immediately become part of the machine builders problems as well. Indeed, it is the machine builder who usually takes the initiative in suggesting to the manufacturer the advantages of specially adapted equipment to get the best and least expensive results. Machine builders watch fashions and trends in fabrics and yarns as closely as does the textile manufacturer himself.

No, textile machinery is no longer standardized in the sense of being static. It is in a constant process of evolution to meet the demands of fashion and new constructions.

So today, modernization does not necessarily mean equipment that is less than ten years old and in good condition; it means machinery which is adapted to make most efficiently, competitively, *and at a profit,* the products that the market demands *today.*

The president of a big New England concern said to me the other day, "Mr. Lord, textile machinery has become a style product." I think he is right.

H. G. LORD, *founder of Textile World in 1888 and president, Bragdon, Lord & Nagle Division, McGraw-Hill Publishing Co.*



• You have read of cases where a property owner failed to follow the suggestions of his fire insurance company for reducing hazards—and needless loss resulted.

If you do not care to help pay for this sort of oversight, you will find it advantageous to become an I.R.M. policyholder; for unless the essential recommendations of I.R.M. fire-prevention engineers are followed, we do not accept the insurance.

I.R.M. writes only those risks which meet its standards; frequent inspections keep them up to that mark. When you qualify for this protection, your fire insurance cost is less, since very few losses due to carelessness and procrastination of others are reflected in the I.R.M. net cost.

As a result of these factors, I.R.M. policyholders have received a return of 25% of their premiums annually since the founding of this group — an example of sound indemnity at minimum cost.

IMPROVED RISK MUTUALS

60 John Street, New York

A nation-wide organization of old established, standard reserve companies writing the following types of insurance: Fire • Sprinkler Leakage • Use and Occupancy • Tornado and Windstorm • Earthquake • Rents • Commissions and Profits • Riot and Civil Commotion • Inland Marine

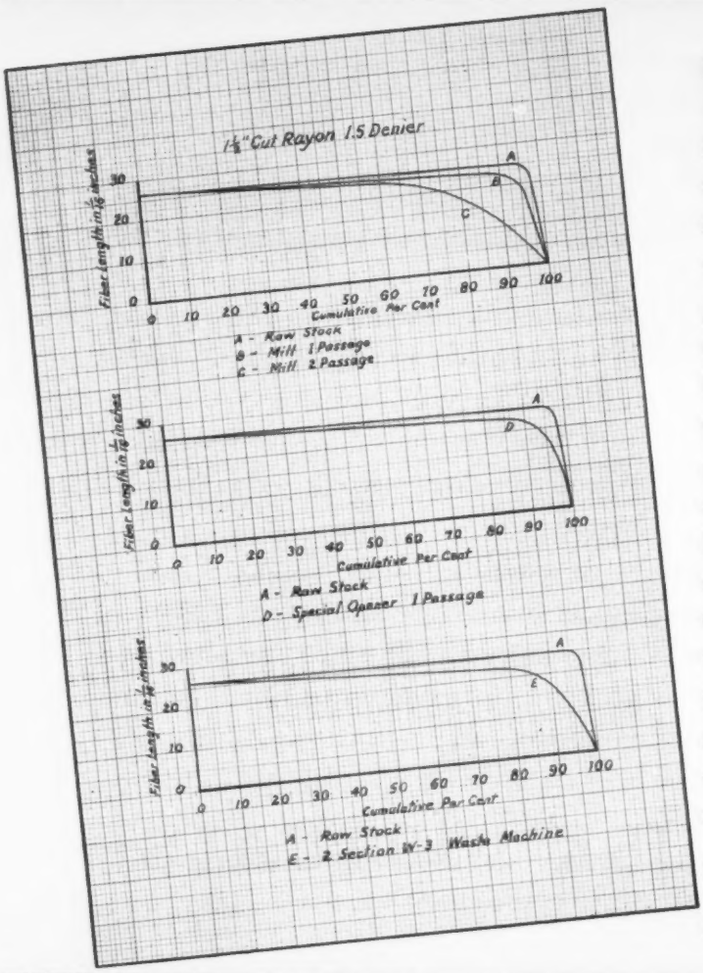
TODAY

PRODUCTION OF STAPLE FIBRE WILL REACH 65,000,000 POUNDS IN 1939 . . .

DEMANDS CONTINUE TO GROW

SACO-LOWELL

Ready today for the Needs of Tomorrow


1½" Cut Rayon 1.5 Denier
Fiber Length in 32nds inches
Cumulative Per Cent
A - Raw Stock
B - Mill 1 Passage
C - Mill 2 Passage
A - Raw Stock
D - Special Opener 1 Passage
A - Raw Stock
E - 2 Section BY-3 Waste Machine

THE TREMENDOUS STRIDES which have been made in the development and use of spun rayon and other synthetic fibres present a challenge to the mill of today.

The overwhelming acceptance of this material points to an even greater demand tomorrow—a demand which the mill of today must be prepared to meet.

To meet this demand Saco-Lowell has prepared special equipment in opening and picking, carding and spinning . . . equipment which embodies the latest results of an extensive research in the spinning characteristics of these synthetic fibres, not only when used alone, but when blended with cotton and other synthetics.

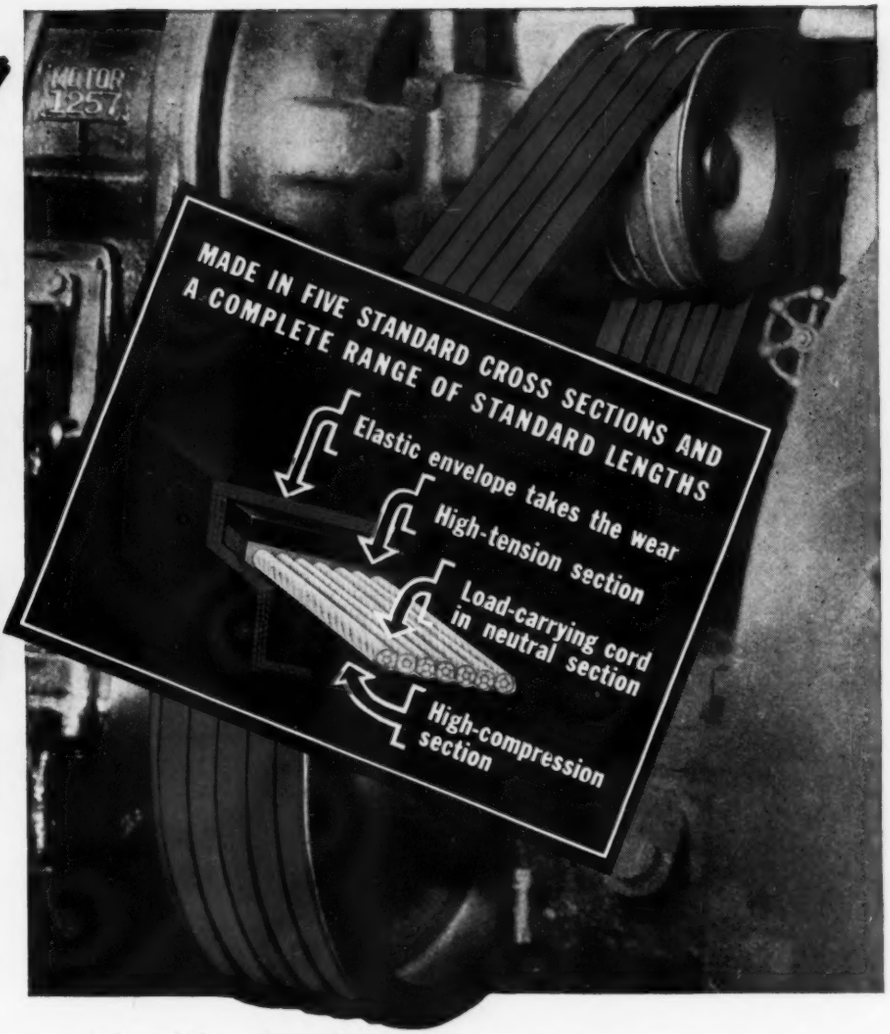
To mills interested in expanding their operations in this new field we offer this new equipment with every confidence in its ability to perform effectively.

DIAGRAMS OF . . .
1½" - - 1.50 Denier Staple Fibre showing Staple Change resulting from Processing.

SACO-LOWELL SHOPS 60 Batterymarch Street, Boston, Mass.

Charlotte, N. C. Greenville, S. C. Atlanta, Ga.

Announcing A SIGNAL IMPROVEMENT *in* MULTI-V BELTS


MADE IN FIVE STANDARD CROSS SECTIONS AND A COMPLETE RANGE OF STANDARD LENGTHS
Elastic envelope takes the wear
High-tension section
Load-carrying cord in neutral section
High-compression section

New balanced construction, new materials, improved matching insure closest uniformity in length, cross section, pull and service life!

More alike than peas in a pod

SUCCESSFUL and economical Multiple V operation depends upon teamwork. In V belts this means uniformity between belts. There must be no star performers eager to assume more than their share of the work—and no weak sisters, looking for a free ride.

After months of development and tests Goodyear is ready with a new improved E-C Cord Multi-V Belt whose keynote is *Uniformity*. Note the following characteristics, all of which contribute to proper teamwork between belts.

UNIFORMITY OF CROSS SECTION—each belt accurately molded to insure correct position in the sheave groove.

UNIFORMITY OF STRENGTH—a balanced cord load carrying member with the same number of high-tensile cords in every belt and throughout the length of each belt.

UNIFORMITY OF STRETCH—because of a new cord processing method developed by Goodyear which permits absolute control of cord characteristics. The cord is pre-shrunk, impregnated with liquid rubber, and gum insulated for stronger carcass bond.

UNIFORMITY OF LENGTH—belts are accurately measured under actual drive conditions, in standard grooves and under operating tension. A length code number on each belt permits the selection of properly matched sets in the field.

UNIFORMITY OF PULL—an improved envelope treatment permits all belts to grip the sheave groove evenly—eliminates any tendency for belts to grab and bind, spoiling the balanced teamwork of the set.

The above features all contribute to UNIFORMITY OF SERVICE LIFE—the answer to economical multiple V operation. There are no grabbers, no loafers—every belt's a puller—*pulling evenly.*

And that means longer life and highest efficiency at lowest ultimate cost.

In the new improved Goodyear E-C Cord Multi-V Belt you secure Goodyear's original endless cord construction—the ideal V belt design—now developed to the highest state of perfection. From an appearance standpoint also, the Goodyear E-C Cord V Belt is outstanding because of its attractive green color. The nearest Goodyear distributor can supply you now—or write Goodyear, Akron, Ohio.

ON YOUR NEXT ORDER *Specify*—

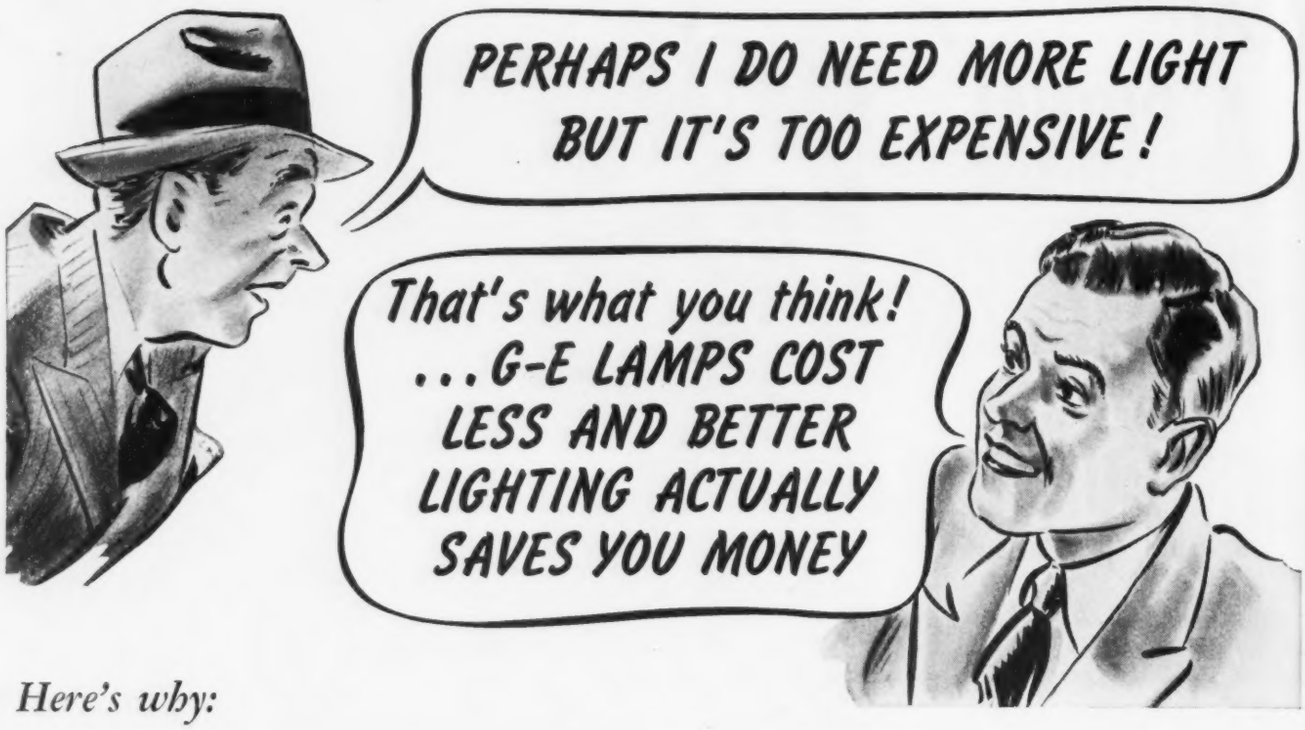
A Centennial Product of The Greatest Name in Rubber

GOODYEAR

MULTI-V E-C CORD BELTS

E-C Cord—T.M. The Goodyear Tire & Rubber Company

GENERAL ELECTRIC MAKES LAMPS FOR


PERHAPS I DO NEED MORE LIGHT BUT IT'S TOO EXPENSIVE!
That's what you think! ...G-E LAMPS COST LESS AND BETTER LIGHTING ACTUALLY SAVES YOU MONEY

Here's why:

1. G-E LAMPS GIVE MORE LIGHT FOR LESS MONEY because scientific research and development year after year are producing lamps which operate at constantly greater efficiencies, yet sell at continually lower prices.

2. G-E MAKES A COMPLETE LINE OF LAMPS . . . representing *every* type of electric lamp practical to industry. This fact assures you of an unbiased recommendation for lighting to fit every need.

3. SIXTY YEARS OF MANUFACTURING and application experience is back of every lamp General Electric makes. Many of these lamps must pass as many as 480 checks, tests, and inspections to assure satisfactory performance.

4. G-E's SYSTEM OF STRATEGICALLY located warehouses, supplemented by wholesalers' stocks, practically assures 24-hour delivery anywhere in the United States. This saves you time and storage space.

5. G-E's LIGHTING ENGINEERING SERVICE at Nela Park and in 17 key cities offers you its wealth of knowledge in solving lighting problems and in helping you get the most for your lighting dollar. It's yours for the asking.

• • •

For specific information, write the General Electric Lamp Division nearest you, or Nela Park, Cleveland, Ohio.

Get these benefits by light-conditioning your plant with G-E lamps!

Let a G-E Lighting Specialist show you how light-conditioning can improve working conditions and actually help increase profits by:

1. Increasing efficiency of operation.
2. Providing means for more accurate work.
3. Effecting more efficient maintenance of equipment.
4. Conserving eyesight.
5. Reducing accidents.
6. Improving morale because of brighter more cheerful working conditions.

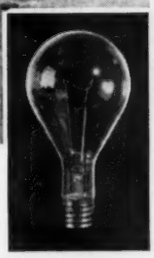
• • •

For further information, write General Electric Company, Lamp Department, 166-TW-L, Nela Park, Cleveland, Ohio.

GENERAL ELECTRIC

LAMP DEPARTMENT, NELA PARK, CLEVELAND, OHIO

EVERY INDUSTRIAL LIGHTING NEED!

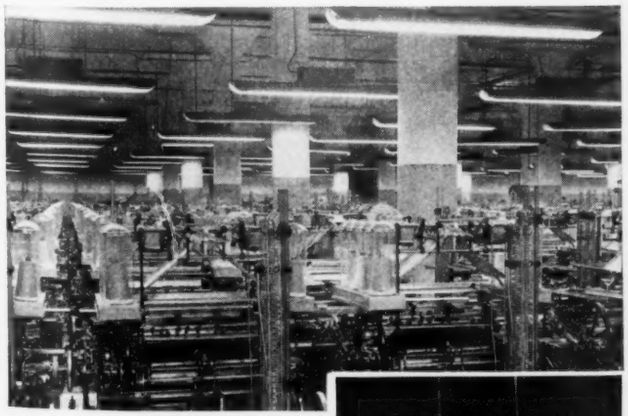


G-E MAZDA filament lamps fulfill most industrial requirements for general lighting service. They are made in sizes from 15 up to 1500 watts, and available in certain sizes in clear, inside frosted, white bowl, silvered bowl, and daylight bulbs.

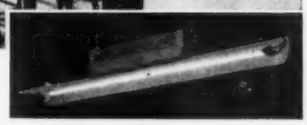
G-E MAZDA Projector lamps concentrate light where it's needed. Lens, reflector, and filament are one sealed unit.

G-E MAZDA F (fluorescent) lamps make possible higher lighting levels and are 50% cooler than filament lamps. Available in daylight, white, and five colors, in several lengths and wattages.

G-E MAZDA H (mercury) lamps—400 watt size shown—have high efficiency, long life and ruggedness—very practical for high bay areas. May be used advantageously either alone or in combination with filament lamps.



RF 85 WATT (Cooper Hewitt fluorescent) lamps (100 watts overall) for high levels of industrial illumination. Make night work as pleasant as day work. Have long life . . . low operating cost.



COOPER HEWITT mercury vapor lamps are long tube light sources free from shadow, and easy on eyes because they contain only cool yellow-green rays. Excellent for showing up small objects and detail.

GENERAL ELECTRIC

LAMP DEPARTMENT, NELA PARK, CLEVELAND, OHIO

GOOD BUSINESS NEWS

IF your business happened to be in a temporary tight spot for lack of working capital, who would have the deciding word as to how much you could borrow to tide you over—*you*, or the lender?

Most business financing smacks of dictatorship. It is tight-formed by tradition and precedent. It lays down terms and conditions which the borrower *must* accept. It measures his worth by what he *has*—not by his present or potential volume of profitable sales.

That's where "NON-NOTIFICATION" Open Account Financing shows a definite superiority. It is poles apart from other forms of financing in flexibility, in ease and speed of action, in conforming to the actual day-by-day needs of the business that employs it.

It fits easily into the plans and operations of any manufacturer or wholesaler—big or small—as these two actual cases*, taken from our records, illustrate.

Case # 1—Sales for the first four months of 1938, before using our open Account Financing, were $117,197. Net loss, 14%. Sales for the first four months of 1939, using our service, were $154,792 gross. Net profit was 7.1%. Outstandings increased to a figure permitting 60% greater borrowing capacity.

Case # 2—Company started using our Open Account Financing in 1928. Annual Sales volume was then $1,301,778. For the year 1938, gross volume was $5,608,067. Eight years volume, 1931 to 1938 inclusive, was $31,761,974—all financed, without increase in capital, by anticipation of receivables.

* * *

You can easily have a sample of how this kind of financing would ease your problems, without disturbing in any way your present customer relations or interfering with management. First, send for our pamphlet, "COMPARATIVE COSTS OF FINANCING". Then, if you're interested, let one of our officers meet with you and arrange a practical demonstration. No obligation.

**The facts and figures, taken from our records, can be certified.*

COMMERCIAL CREDIT COMPANY

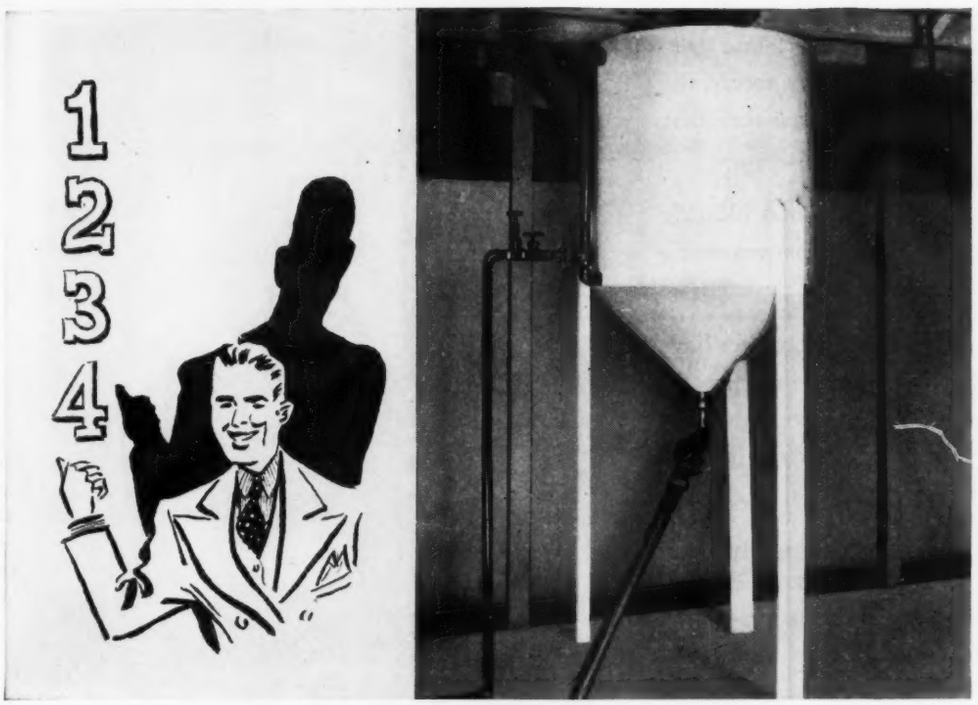
"Non-Notification" Open Account Financing

BALTIMORE

BOSTON NEW YORK CHICAGO SAN FRANCISCO PORTLAND, ORE.

CAPITAL AND SURPLUS MORE THAN $65,000,000

The LIXATE process pays its way with any one of 4 major savings



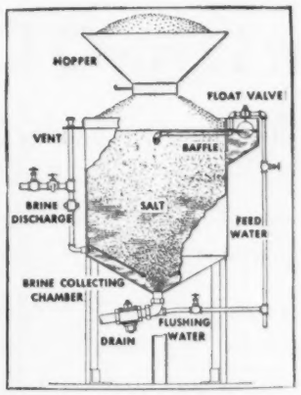
ADVANCE PIECE DYE WORKS, INC., of Rutherford, N. J., installed this Lixate Process for its major economies in making brine.

TEXTILE mills large and small, in every important textile center from Maine to the Gulf of Mexico, are now using The Lixate Process For Making Brine. It makes literally dozens of savings in any textile mill—and of these, four are of major importance. These are:

1. Lowered costs for handling salt;
2. Elimination of all labor cost for making brine;
3. Reduced cost for distributing brine;
4. A saving in the amount of salt required, ranging up to 10% and 20%.

Any one of these would be more than enough to justify the installation of The Lixate Process in any textile mill. Yet the minute The Lixate Process starts to operate in your mill, you get all four savings. You handle salt only once—at one point in the plant. So long as its hopper contains recommended grades of International's Retsof, Detroit or Avery brands of Rock Salt, the Lixator is completely automatic in operation—eliminating all labor and power costs for making brine. Brine produced is easily pumped or piped by gravity throughout the mill, eliminating costs for distributing brine. Automatic and precise operation eliminates salt waste—making savings up to 20%, in the amount of salt required.

Look into this important economy. Write for a free copy of The Lixate Book, or better yet, ask to have a Lixate Engineer call. At no cost, he can show you how The Lixate Process can be easily adapted to your own operations, and give you all the benefit of its 4 major savings.



AUTOMATIC SAVINGS

International Rock Salt of the recommended grade is placed in the hopper, and flows by gravity to the Lixator below. Water enters through a spray nozzle at the top, and dissolves the salt without agitation, becoming saturated brine. Brine is self-filtered and rises in the collecting chamber to a discharge pipe. The entire operation is automatic, requiring no power, no labor except to keep the salt hopper filled.

SALT FOR EVERY PURPOSE

The Lixate Process was developed by International Salt Company, Inc., to help industry produce better quality and at lower costs. It is for the same reason that International produces all types and grades of salt required in industry. Three great mines and three modern refineries produce every type and grade of Rock Salt, granulated salt (vacuum refined) and flake salt (grainer process.) The Research Department of International offers advice and counsel concerning the uses of salt and salt brine at no cost or obligation. You are invited to submit any question about your own uses of salt or salt brine.

WRITE FOR THIS BOOK!

In The Lixate Book, sent free on request, is a detailed description of The Lixate Process and pictures of successful installations. In addition, you will find helpful technical information about salt brine. The Brine Table, prepared by International's Research Department, gives the density, specific gravity and weight of brine at all salometer readings.

The LIXATE *Process*

REG. U. S. PAT. OFF.

FOR MAKING BRINE

INTERNATIONAL SALT CO., INC., Scranton, Pa., New York, N. Y.

SALES OFFICES: *Buffalo, N. Y.* • *Philadelphia, Pa.* • *Boston, Mass.* • *Baltimore, Md.* • *Pittsburgh, Pa.* *Newark, N. J.* • *New York, N. Y.* • *Richmond, Va.* • *New Orleans, La.* • *Cincinnati, Ohio* • *St. Louis, Mo.*

SAFEGUARD
their FINISH—and SALEABILITY—with OLATE processing

SURE, it's the *finish* of a rayon or acetate fabric that attracts the customer's eye. It's the color, the softness, the clean-cut design, the draping qualities, that make these handsome fabrics sell.

But back of that alluring finish . . . back of that pleasing hand . . . is skilled processing. And countless processing safeguards.

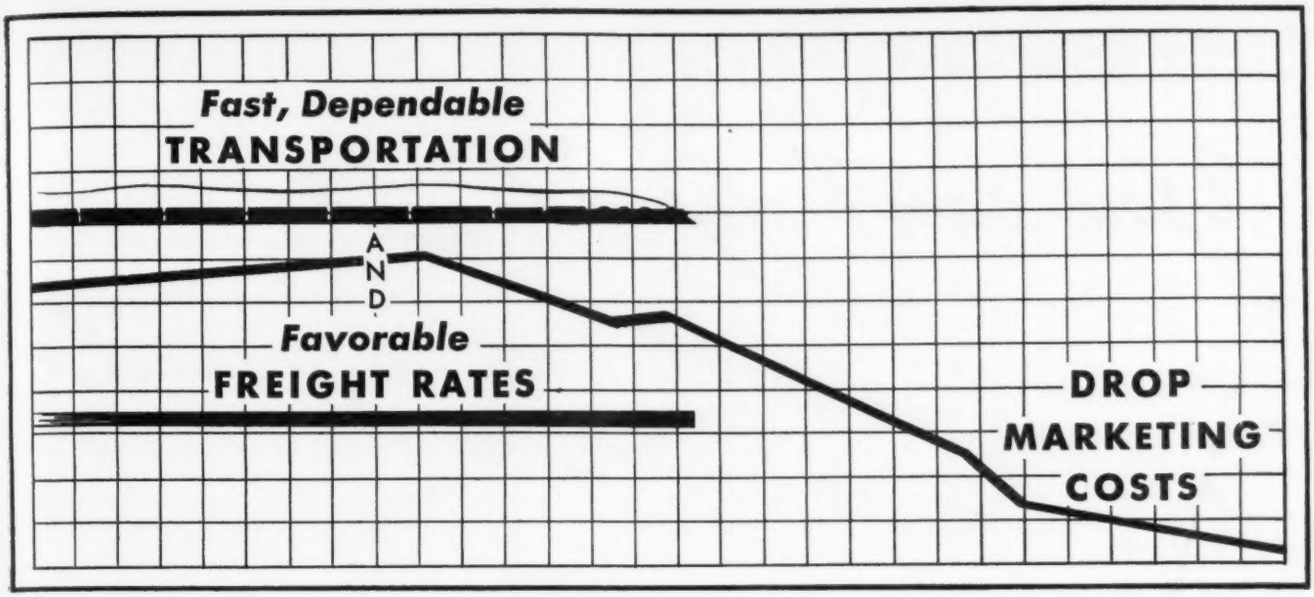
Many important manufacturers of rayons and acetates have found an exceptionally dependable processing safeguard in Olate. This pure, uniform, low titer soap is well qualified to protect the beauty, the saleability, of today's endless variety of eye-filling rayons and acetate fabrics.

Olate has many qualities which make it unusually satisfactory for scouring and dyeing. It dissolves fast. It penetrates rapidly and evenly. It provides even shrinkage . . . level dyeing.

Olate's uniformity, its free rinsing properties and its gentleness protect fabrics against streaks, dye blotches, creases and chafe marks. In every way Olate preserves in rayons and acetates the characteristics which have made these fabrics "best sellers" from coast to coast. Try Olate. You can make no finer investment in "processing insurance."

Procter & Gamble · Cincinnati, Ohio

the universal textile soap



...and Industry enjoys

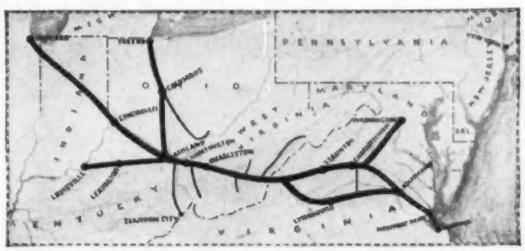
EXCELLENT TRANSPORTATION FACILITIES

in Chesapeake and Ohio Territory

Speed, favorable freight rates and dependable service are essential factors in the economics of marketing. Chesapeake and Ohio Lines—"The Road that Service Built"—has an enviable reputation among shippers in its territory: Virginia, West Virginia, Kentucky, Ohio and Indiana.

Running east and west through the heart of these states, Chesapeake and Ohio rails bring key cities of the east, midwest and south within first to third morning delivery of almost any point in the territory. Numerous strategic connections with other major railroads facilitate rapid delivery to any point in the United States. Heavy traffic and scheduled merchandise freight of every sort make demands on Chesapeake and Ohio service—demands which are scrupulously met by intelligent personnel operating a railroad plant and equipment second to none.

A great variety of industries have found that location in Chesapeake and Ohio Territory has lowered their production costs; for, besides excellent transportation, this region provides available industrial sites, easy access to raw materials, abundant native-born labor, cheap power and the benefits of business-minded legislation.



THESE ADVANTAGES

are but the fundamentals of many favorable conditions making Chesapeake and Ohio Territory an economic field of operation for many industries.

- RAW MATERIALS of many kinds; abundant, near at hand, economically secured.
- INTELLIGENT LABOR—native-born; largely skilled in a diversity of industries; well housed; peaceful and cooperative.
- NEAR TO MARKETS—major consuming areas within first, second or third morning delivery.
- EXCELLENT TRANSPORTATION—favorable freight rates and dependable service keep markets and manufacturers in economically close touch.
- CHEAP POWER—abundant coal, oil, natural gas and hydro-electric developments assure this region of unlimited power at most economical costs.
- COOPERATIVE LEGISLATION—Industry is king in Chesapeake and Ohio Territory, and the legislatures of the five great States in which it lies are friendly toward the needs and aims of enterprises they invite and those they already have.

What do you seek in a more advantageous location? Complete and impartial factual surveys for your specific industry will be furnished on request. All inquiries will be held in strictest confidence. Write

GEORGE D. MOFFETT, *Industrial Commissioner*
CHESAPEAKE AND OHIO LINES, Huntington, W. Va.

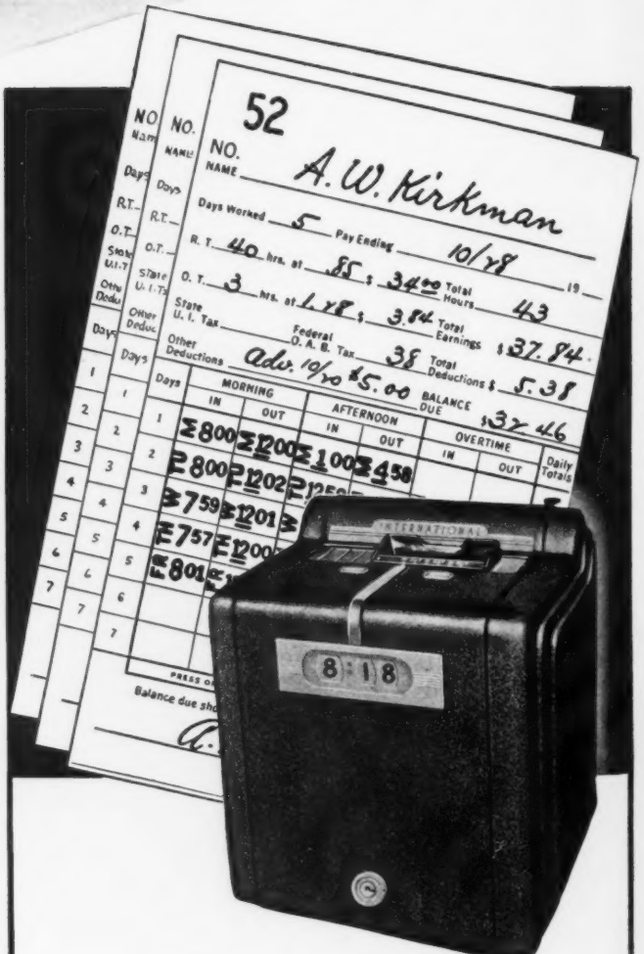
CHESAPEAKE *and Ohio* LINES

FOR ACCURATE TIME RECORDS

To *know exactly how much* time each employee spends in your plant is to have a trustworthy safeguard against payroll losses, disputes, and ill-will. Pencilled time records are subject to too many human shortcomings to be depended upon for the accurate information you need... particularly in these days of increasing wage rates and shrinking work weeks.

Dependable accuracy is one of the most important advantages of using International Attendance Time Recorders. These modern, completely automatic devices provide legible, printed records that show the exact minute of every arrival and departure time . . . the same accuracy day after day, week in and week out. *Both you and your employees* will find many profitable benefits when payroll figures are based on time records that are accurate beyond all question of doubt.

These facts are of vital interest to every employer . . . an International representative in your community will be glad to explain what industry is doing today to eliminate payroll confusion.


52
NO.
NAME A. W. Kirkman
Days Worked 5 Pay Ending 10/28 19
R. T. 40 hrs. at .85 $ 34.00 Total Hours 43
O. T. 3 hrs. at 1.28 $ 3.84 Total Earnings $37.84
State U. I. Tax
Federal O. A. B. Tax .38 Total Deductions $ 5.38
Other Deductions Adv. 10/20 $5.00 BALANCE DUE $32.46
MORNING
AFTERNOON
OVERTIME
IN
OUT
Daily Totals
8 | 8

EMPLOYERS like International Time Recorders because they give, in convenient form, accurate legible and permanent records for personnel management.

EMPLOYEES like International Time Recorders because they give an honest, clear record of their arrival and departure times, eliminating partiality, payroll errors and disputes.

INTERNATIONAL BUSINESS MACHINES CORPORATION

World Headquarters Building
590 MADISON AVENUE, NEW YORK, N.Y.

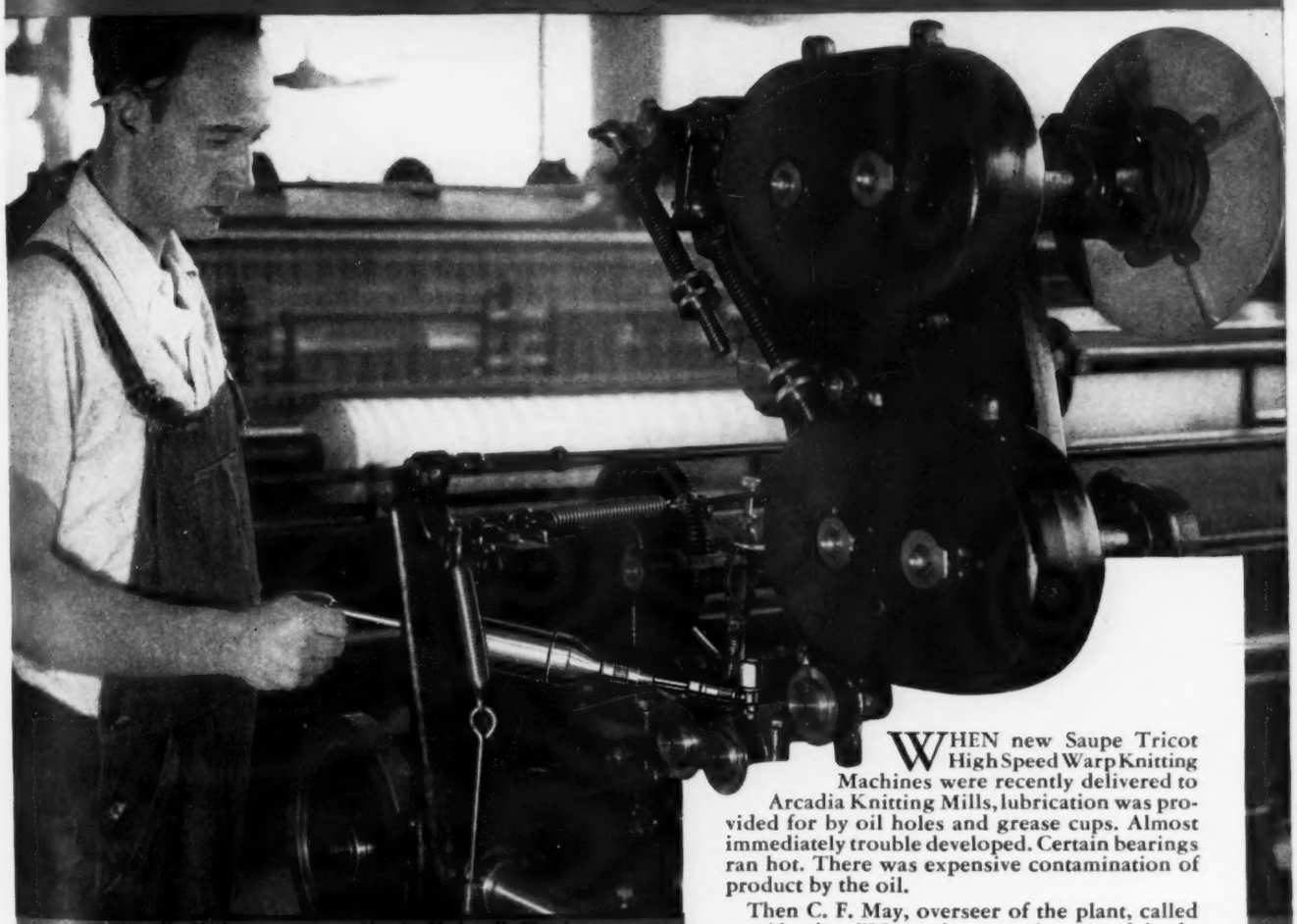
Branch Offices
IN PRINCIPAL CITIES OF THE WORLD

"In Knitting Plants—

ALEMITE MEANS FREEDOM FROM BEARING FAILURES

. . . ELIMINATES PRODUCT SPOILAGE!"

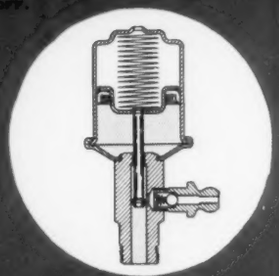
C. F. May, Arcadia Knitting Mills, Allentown, Pa.



Arcadia Mills operator uses Alemite Hydraulic Hand Gun to apply Alemite Viscous H Lubricant to Alemite Model 1740 Reservoir Cup on Saupe Tricot Knitter.

ALEMITE
REG. U. S. PAT. OFF.

Alemite Model 1740 Reservoir Cup offers a sure, safe way to insure correct lubrication of close-fitting bearings, because it stores a quantity of lubricant which is then fed to the bearing in a continuous flow under pressure. No chance of running dry between lubrications!



WHEN new Saupe Tricot High Speed Warp Knitting Machines were recently delivered to Arcadia Knitting Mills, lubrication was provided for by oil holes and grease cups. Almost immediately trouble developed. Certain bearings ran hot. There was expensive contamination of product by the oil.

Then C. F. May, overseer of the plant, called on Alemite. "My entire experience and background in the knitting business convinced me that Alemite Lubrication *meant freedom from bearing failures* and elimination of product spoilage," says Mr. May. The new machines were equipped for Alemite Lubrication, easily and at small cost. *Now bearings that formerly required oiling twice a week operate perfectly on Alemite once a week!* There are no more hot bearings and no product spoilage!

Many machines not now equipped for Alemite Lubrication can be easily converted; let us show you how Alemite Equipment and Lubricants *can help you cut operating and maintenance costs* in many ways! Our years of successful textile experience are at your service. There is no obligation. Write to us today!

ALEMITE—*A Division of Stewart-Warner Corporation*
1888 Diversey Parkway, Chicago, Illinois
Stewart-Warner-Alemite Corp. of Canada, Ltd., Belleville, Ont.

WORLD'S LARGEST MANUFACTURER OF LUBRICATION PRODUCTS

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
NEW YORK, N. Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

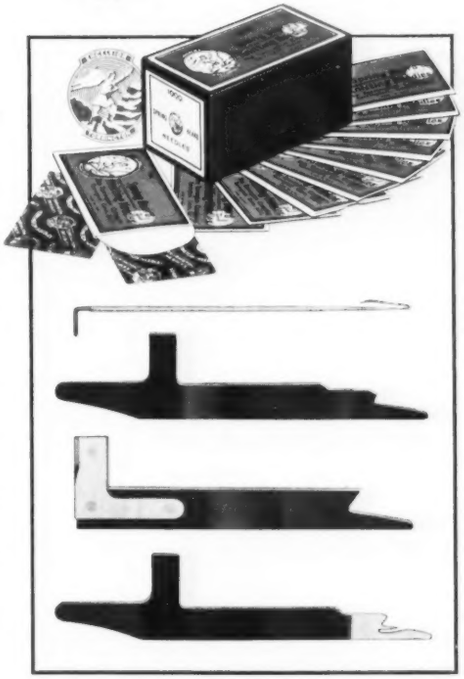
Inquiries as to our services solicited

•

ESTABLISHED 1840

"STRAIN-RESISTANT" . . . "SEAM-TRUE" . . . "KNIT-TO-FIT."

Hosiery manufacturers are constantly improving women's hosiery and increasing sales through better construction and styling. Today it is difficult to see how standards can be improved further, yet one by one improvements are made without increasing the cost to the women who buy. Torrington aids the manufacturer of women's hosiery by providing him with needles that produce flawless knitting at the highest speeds . . . needles that cannot be surpassed for the fineness of their temper, the smoothness of their finish and the uniformity of their dimensions because they are *machine-made* and *machine-tested.*



TORRINGTON *Needles and Sinkers*

GET ALL THESE ADVANTAGES BY SPECIFYING THE TORRINGTON NEEDLE BEARING

WHEN you order textile machinery, get all the advantages of anti-friction operation by asking to have it equipped with the Torrington Needle Bearing.

You will find that the *small size* of the Needle Bearing results in light weight—and in many textile applications light weight spells economies in power costs. Other power savings are possible with the Needle Bearing, too—for its low coefficient of starting and running friction enables you to reduce the friction losses that are encountered when you use plain bushings.

The *high unit capacity* of the Torrington Needle Bearing allows you to operate your equipment at high speeds under heavy loads. The Needle Bearing is constructed with a full complement of long, small-diameter rollers. These rollers provide plenty of linear inches of bearing contact in even the smallest bearings—and give high radial load capacity in proportion to size. The rollers are permanently assembled in a retaining shell, carefully hardened to give long bearing life.

MAINTENANCE COST IS LOW

The *thorough lubrication* of the Torrington Needle Bearing keeps maintenance costs at a minimum. The bearing can be operated continuously for long periods of time, with only infrequent lubrication service. The retaining shell is provided with turned-in lips to form a reservoir that holds ample quantities of grease or oil. Moreover, the lips, fitting closely to the shaft, form an effective seal to exclude dust and lint from the bearing.

You can get *all* these advantages in your textile machinery by insisting that it be equipped with the Torrington Needle Bearing—used by leading manufacturers of textile equipment. Often you can get the same advantages in your present machines by changing them over to use the Needle Bearing. The Torrington Engineering Department will be glad to advise you on the possibility of making the change to anti-friction operation in your present equipment.

For further information, write for Catalog No. 12. For Needle Bearings to be used in heavier service, request Booklet No. 103X from our associate, Bantam Bearings Corporation, South Bend, Ind.

The Torrington Company
ESTABLISHED 1866
Torrington, Conn., U.S.A.
Makers of Ball and Needle Bearings

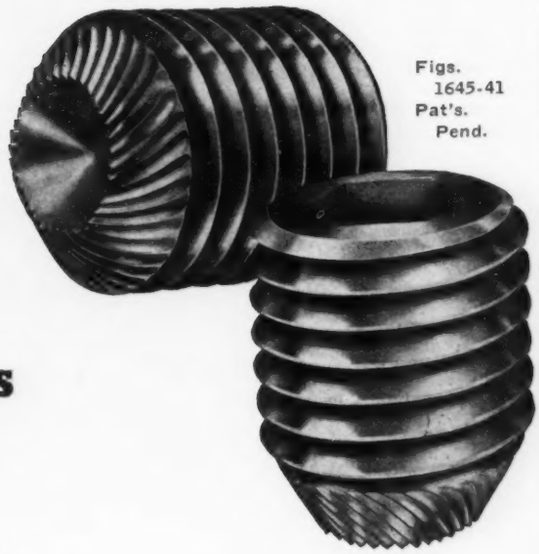
New York Boston Philadelphia Detroit
Cleveland Chicago London, England

TORRINGTON NEEDLE BEARING

GRIPPING FACTS

about

UNBRAKO



Figs. 1645-41 Pat's. Pend.

SELF-LOCKING HOLLOW SET SCREWS

WITH THE KNURLED POINTS

- **THEY HOLD TIGHT**
- **THEY CAN'T VIBRATE LOOSE**
- **THEY PREVENT BREAKDOWNS**
- **THEY AVERT ACCIDENTS**

These advantages mean that you can now be sure of every set screw doing its job no matter what the vibration or operating conditions. *"Unbrako" Self-Locking Knurled Set Screws* simply can't unwind themselves once they are tightened in the normal manner. Ingenious knurling on the cup points automatically and permanently locks them in place. Yet these screws can be easily removed for adjustment if desired and reused again and again, indefinitely.

These are a real answer to breakdown problems . . . proved by tests and usage in hundreds of mills and under all conditions.

The coupon below is your passport to incorporating these advantages in your own equipment. Rip it out, fill in and mail it NOW!

Fig. 1646 Pat's. Pend'g.

Knurled Point on the UNBRAKO Self-Locking Square-Head Set Screw, too!

The Square-Head Set Screws used and liked by industry for years also can be had now with the automatic self-locking feature provided by the knurled cup points. And, like the Knurled Point Set Screw, they hold tight—yet are easily removed with ordinary tools, and used over and over again

Get Bulletin!

STANDARD PRESSED STEEL CO.

BRANCHES: BOSTON, DETROIT, INDIANAPOLIS

JENKINTOWN, PENNA.

Box 571

BRANCHES: CHICAGO, ST. LOUIS, SAN FRANCISCO

Send me samples and all the facts about

☐ "UNBRAKO" Self-Locking Hollow Set Screws.

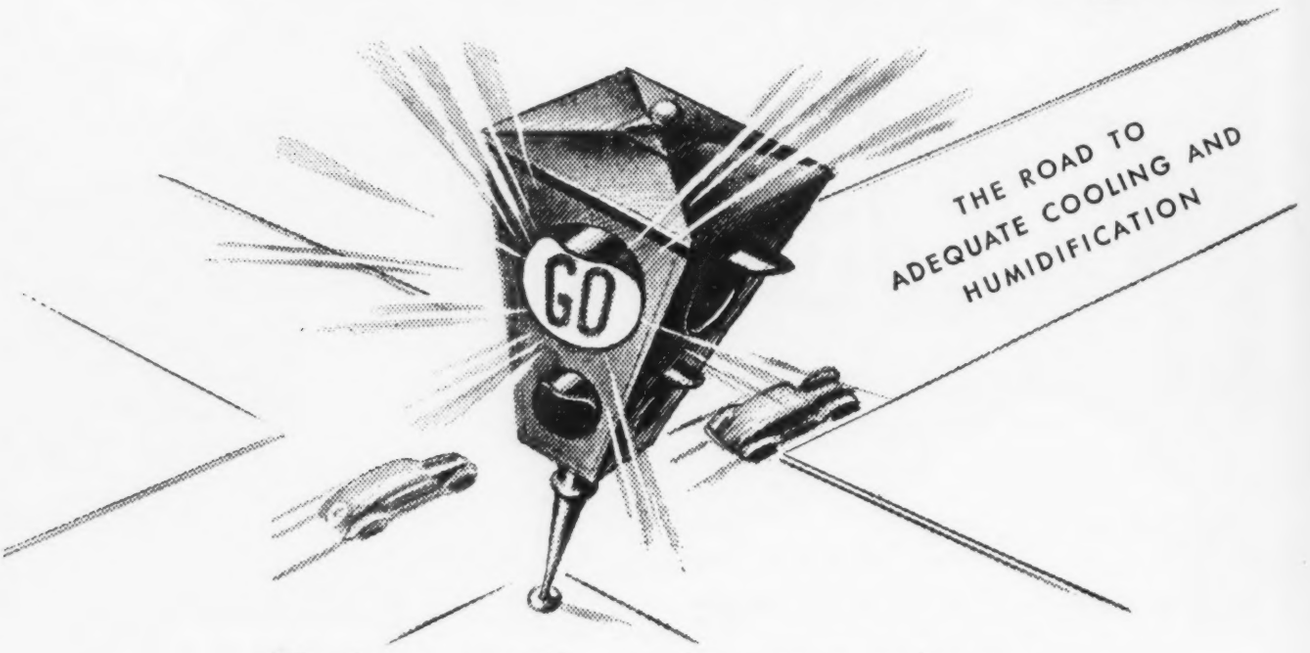
☐ "UNBRAKO" Self-Locking Square-Head Set Screws.

Name..... Title.....

Company.....

Address.....

Now you can flash *the GO-AHEAD Signal!*



The Sturtevant Plan enables you to solve your air conditioning problems, at a cost that will fit your budget!

HAVE YOU been holding back on the road to adequate cooling and humidification because you believe the conditioning you want costs too much? Putting up with "hot spots," burned-out motors, non-uniform quality and other "indoor air" troubles? If you have, these Sturtevant Plans will let you flash the GO-AHEAD Signal.

For whatever your plant conditioning needs may be—from a simple, inexpensive "package unit" for uniform air distribution and room cooling to a complete "engineered" evaporative cooling and humidifying system—you will find that Sturtevant Textile Cooling and Humidification can be supplied to meet those requirements exactly. And to meet the requirements of your pocket-book equally well.

The four plans outlined at the right describe briefly the wide variety of available Sturtevant equipment tailored to fit your needs and purse. Look them over now, and then call our nearest representative. He will sit down with you, discuss your needs, and submit recommendations. No obligation, of course.

COOLING & AIR CONDITIONING DIV.
B. F. STURTEVANT COMPANY
HYDE PARK, BOSTON, MASS.
Atlanta Camden Chicago Greensboro
Los Angeles New York

Sturtevant
REG. U.S. PAT. OFF.
Puts Air to Work

PLAN 1.

Vap-Air Units—An extremely low cost standardized unit for room cooling in conjunction with an existing humidifying system, supplying automatically controlled outside air. Easily installed by mill mechanics, it maintains even relative humidity at all times, prevents over-humidification, insures uniform distribution of air. All under automatic control.

PLAN 2.

Vap-Air Blender Units Plus Your Head System—A carefully engineered low cost system which provides a *guaranteed* summer temperature reduction. Installation under the supervision of Sturtevant experts includes revision of present humidifying system so as to provide desired degree of temperature reduction most efficiently. All under automatic control.

PLAN 3.

Sturtevant Textile Evaporative Cooler and Humidifier System—A "tailor-made" system, completely installed, of either several unit systems, or one large system. Provides lowest possible temperature obtainable without use of refrigeration. All under automatic control.

PLAN 4.

Sturtevant Textile Evaporative Cooler and Humidifier System Combined with Supplementary Head Systems—Essentially the same as Plan 3 but adapted for rooms requiring relative humidity above 65%. All under automatic control.

Cooling & Humidification to Fit Your Pocketbook

INCREASE SALES

Send for FREE Portfolio

You'll get plenty of ideas from "IDEAS for Corrugated Shipping Boxes." Describes notable successes in the field of packaging. Free for the asking.

TWO WAYS YOUR SHIPPING BOX CAN MOVE MERCHANDISE

Do you know your shipping box can become a master salesman? With a staff of creative artists, designers and engineers, H & D offers you a shipping box that protects your product in transit, advertises it throughout distribution, displays it in the retail store, attracts attention, increases sales. Yes, it's a big order for a shipping box, but hundreds of manufacturers are receiving these services every day. Better investigate. Ask for free booklet.

THE HINDE & DAUCH PAPER COMPANY
3930 Decatur Street, Sandusky, Ohio
Factories in Principal Cities

HINDE & DAUCH

SHIPPING BOXES MOVE MERCHANDISE

NOW WE'VE PUT *Steam* INTO RANGE DRIVES

New System Adds a Fourth Kind of Range Drive

RANGE DRIVE: *Two or more finishing machines grouped to process cloth in successive order are said to be in range. Range drive operates each machine in step with the requirements of the entire range.*

IN ADDITION to the three previously established types of range drive, General Electric now can furnish a fourth: turbine-electric. This drive enables double use of process steam. This is of special advantage in mills where there already is a supply of high-pressure (90 lb. or more) steam for process. Where steam and other conditions are favorable, turbine-electric range drive provides these advantages:

LOW FIRST COST — **LOW MAINTENANCE**
LOW OPERATING COST — **WIDE SPEED RANGE**
SIMPLE CONTROL

The quantity of steam required by the turbine ordinarily does not exceed the steam requirements of the process. Turbine-electric range drive employs *existing* boiler capacity.

Now Applied to Printing and Soaper Ranges

Completion of development work over the last two years, with more than a year's successful operation in mills, assures the proper handling of future applications of this type. In one mill, the system operates at rates of 175 yards per minute and faster. Both soaper and printing range drives of this type are in operation. General Electric is in a position to furnish and co-ordinate the *entire equipment* necessary for this *drive*.

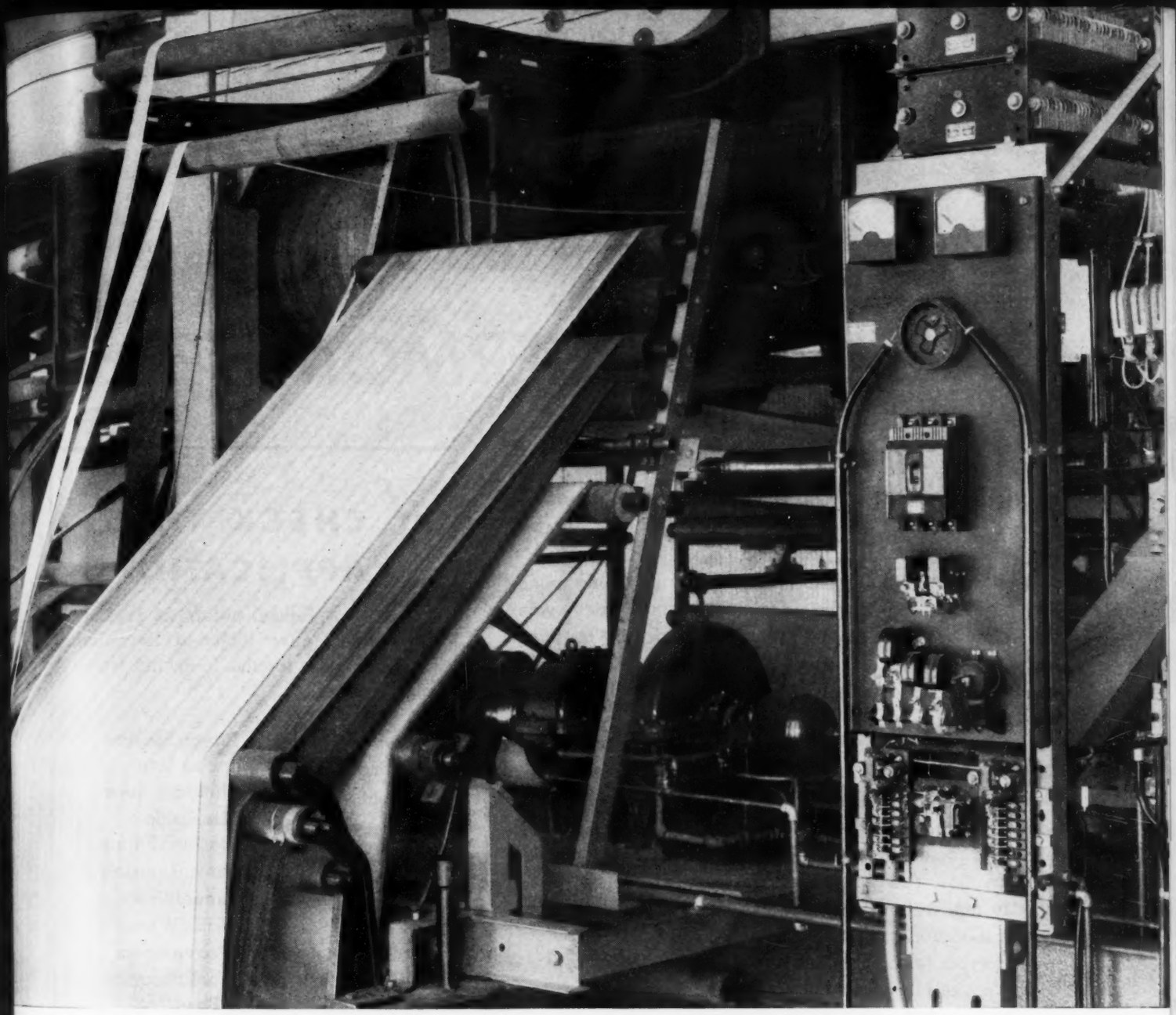
3 OTHER KINDS OF RANGE DRIVE FURNISHED BY GENERAL ELECTRIC:

1. **ADJUSTABLE-VOLTAGE, D-c (Ward Leonard)**
2. **CONSTANT-VOLTAGE, D-c, Adjustable-speed**
3. **ADJUSTABLE-SPEED, A-c, by use of BTA Motors**

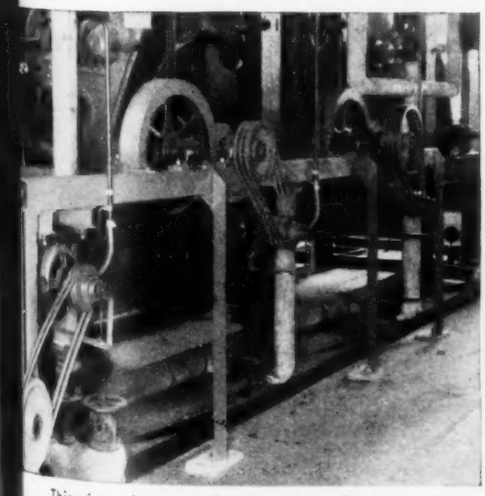
Simplicity of Control

Starting and stopping, jogging (inching) and other speed adjustments are easily and simply controlled by push buttons conveniently located.

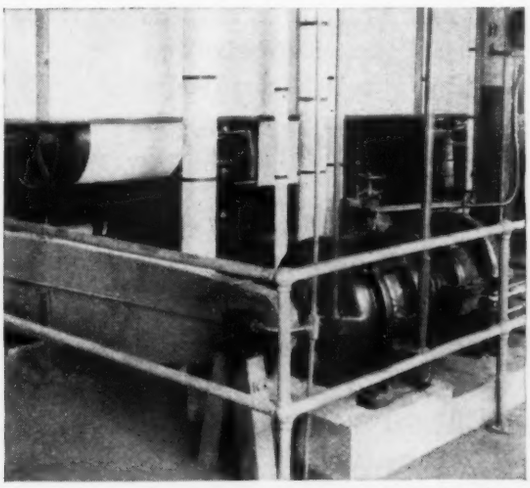
For additional information on the specific application of any electric equipment for textile mills, write General Electric, Schenectady, N. Y., or refer to the nearest G-E office.



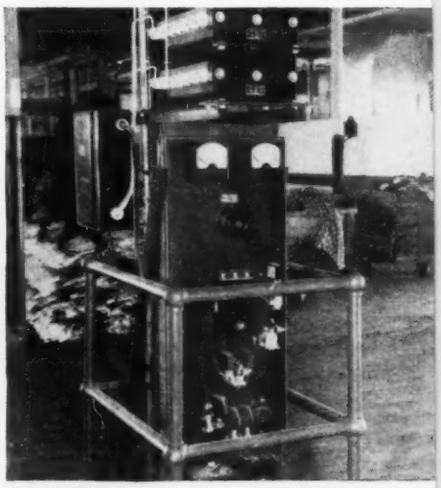
New printing range drive. Turbine-generator, that mechanically drives printing machine, is in middle background. Control panel at right. At lower left (not shown) is a handy push-button station for all control functions



This view of same printing range drive as above shows motor drives of batcher and dry cans. Power generated by turbine-generator pictured above



Soaper range drive. Turbine-generator mechanically drives dry cans and generates power for motor drives of other range sections



Control panel, including braking resistors, for soaper range drive and turbine-generator

GENERAL ELECTRIC

011-560

How Long Since You Checked on RECORDING THERMOMETERS?

Today's conditions call for a new review of the profit-insurance possibilities of these simpler, surer, *mono-therm* instruments.

Was your last analysis of the possibilities for saving money with Recording Thermometers made back in the days when capital outlays were "out"? Did you decide to "let things ride for awhile," knowing that the addition of recording thermometers at one or more points would actually be a sound investment once profits were in sight again?

In that case, now's the time to recheck the situation in the light of rising costs of raw materials and the consequent higher costs of waste and operating delays. What's more, Foxboro's modern mono-therm system adds new factors of simplicity, surety and rapid response to the "go-ahead" side of the investment equation. You get the accurate records you need, day in and day out, without pampering or service expense. Today, on a unit-of-production basis, accurate temperature records are a cheaper form of profit-insurance than ever before!

Why not call in your superintendent and check over those trouble-spots that a few good, responsive Temperature Recorders might eliminate once and for all? The Foxboro man in your locality can suggest the particular type that will give you the records you want, and pay for itself most quickly out of its own savings. Or, if you wish, we'll mail you a 40-page bulletin, "Recording Thermometers," that gives facts and figures you're bound to need. Write for it today. **The Foxboro Company, 84 Neponset Avenue, Foxboro, Massachusetts, U. S. A.** Branch offices in 25 principal cities.

✓ CHECK THESE APPLICATIONS

Recent orders for Foxboro Instruments have included Recording Thermometers for the following textile plant needs:

- Ageing Machine
- Cloth Strainer
- Dipping Vat
- Hosiery Dye Vat
- Kier
- Knitting Room
- Loop Dryer
- Mangle
- Mixing Room
- Processing Water
- Rayon Slasher Size Line
- Shredder Room
- Size Kettle
- Slasher Cylinder
- Tenter Housing
- Tunnel Dryer
- Wash Wheel
- Weave Room
- Wool Scouring Bowl

FOXBORO

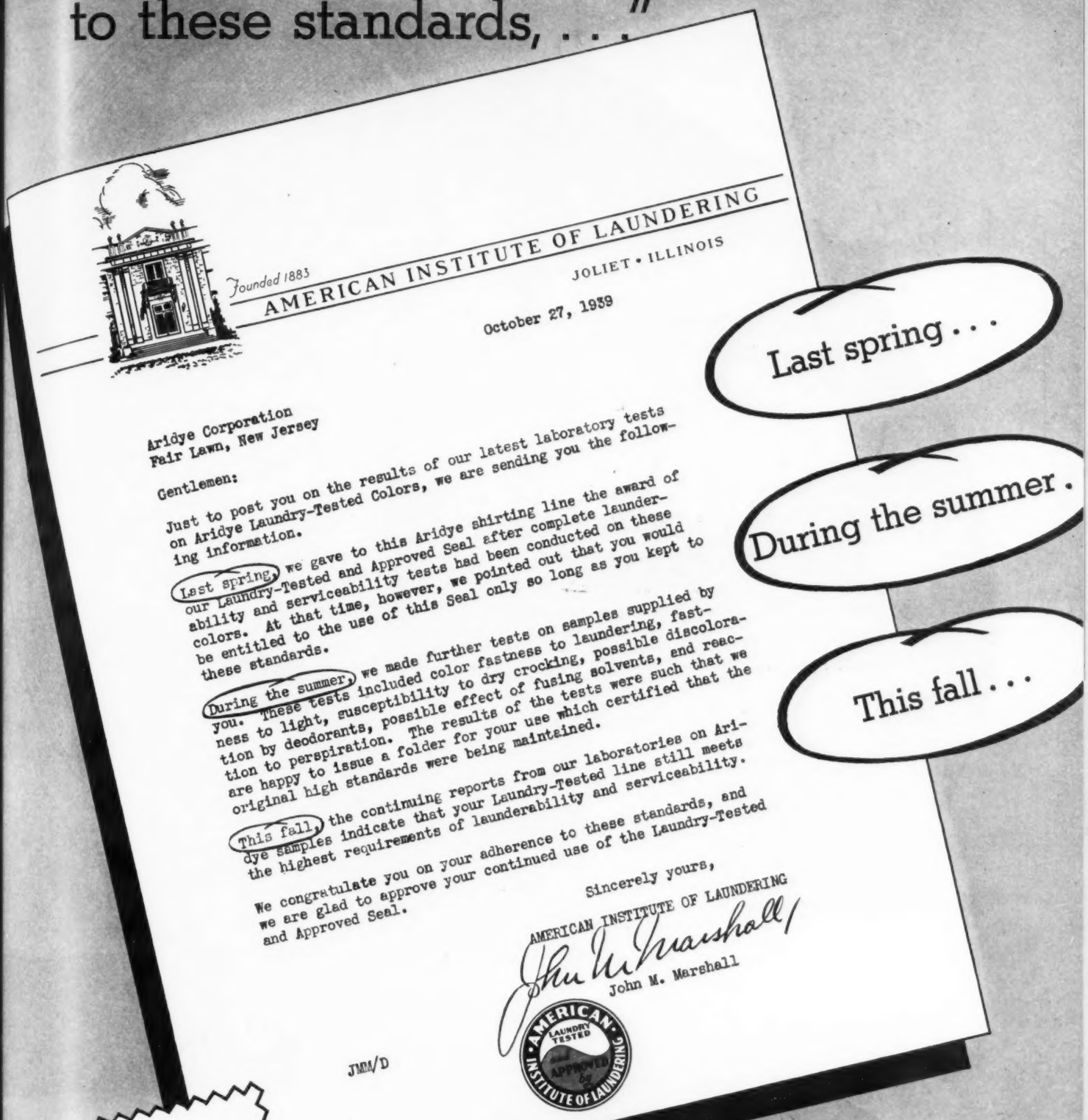
REG. U. S. PAT. OFF.

RECORDING | CONTROLLING · INDICATING *Instruments*

Certified ACCURACY and RESPONSE

TEMPERATURE · LIQUID LEVEL
PRESSURE · FLOW · HUMIDITY

"We congratulate you on your adherence to these standards, . . ."



Founded 1883

AMERICAN INSTITUTE OF LAUNDERING

JOLIET • ILLINOIS

October 27, 1939

Aridye Corporation
Fair Lawn, New Jersey

Gentlemen:

Just to post you on the results of our latest laboratory tests on Aridye Laundry-Tested Colors, we are sending you the following information.

Last spring, we gave to this Aridye shirting line the award of our Laundry-Tested and Approved Seal after complete launderability and serviceability tests had been conducted on these colors. At that time, however, we pointed out that you would be entitled to the use of this Seal only so long as you kept to these standards.

During the summer, we made further tests on samples supplied by you. These tests included color fastness to laundering, fastness to light, susceptibility to dry crocking, possible discoloration by deodorants, possible effect of fusing solvents, and reaction to perspiration. The results of the tests were such that we are happy to issue a folder for your use which certified that the original high standards were being maintained.

This fall, the continuing reports from our laboratories on Aridye samples indicate that your Laundry-Tested line still meets the highest requirements of launderability and serviceability.

We congratulate you on your adherence to these standards, and we are glad to approve your continued use of the Laundry-Tested and Approved Seal.

Sincerely yours,

AMERICAN INSTITUTE OF LAUNDERING

John M. Marshall

John M. Marshall

JMM/D

AMERICAN LAUNDRY TESTED and APPROVED by INSTITUTE OF LAUNDERING

Last spring . . .

During the summer .

This fall . . .

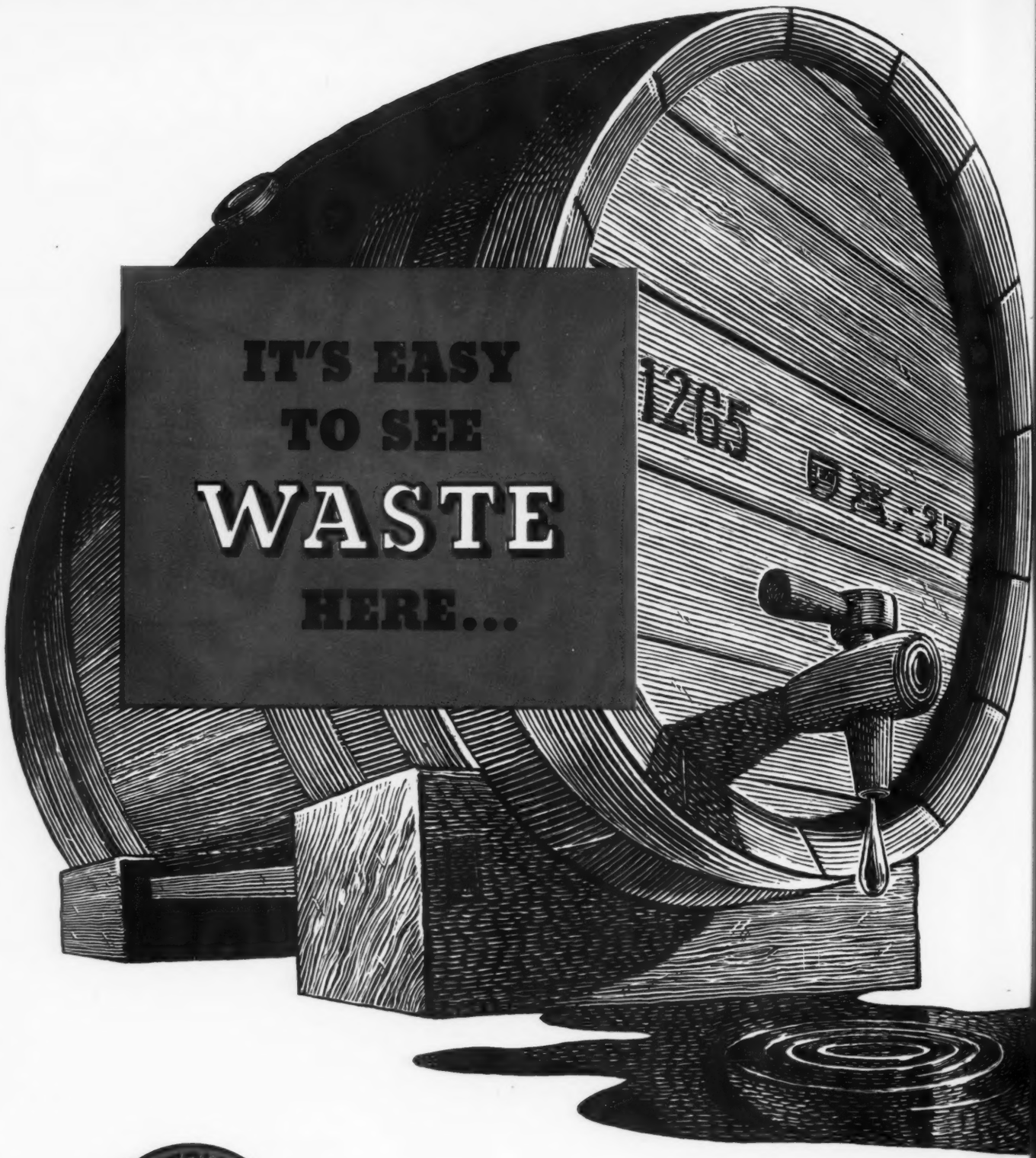
Aridye

Textile Printing Colors

PRINT MORE SHARPLY
MAINTAIN UNIFORMITY OF SHADE
PRODUCE FINER TONAL GRADATIONS
REPRODUCE ENGRAVINGS EXACTLY
ARE FAST TO WASHING
EXCEPTIONALLY FAST TO SUNLIGHT

Aridye

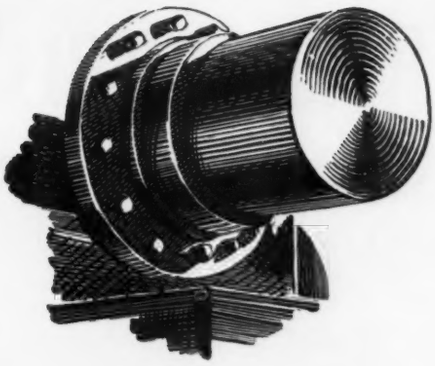
TEXTILE COLORS



INDUSTRIAL
TYCOL
OILS-GREASES

TIDE WATER

THERE IS A COMPLETE LINE OF TYCOL LUBRICANTS



BUT BEARING LUBRICATION losses of 25% to 30% have gone unnoticed for years

"Re-greasing of bearings every nine months was a routine. Then, after a trial, we changed to Tycol Green Cast Greases. It revealed a saving of from 25% to 30%."

This modern grease reaches all bearing surfaces rapidly. There is a minimum of leakage – even in worn bearings. It "stays put!" Tycol Green Cast Greases are made from high-grade paraffine base Cylinder oils. This gives "body" with a minimum of soap. More oil . . . less soap . . . means greater lubrication per pound of grease. There is a consistency to suit every need.

Have a Tide Water engineer survey your operations. He will gladly make recommendations on how you can save with the Tycol lubricant that is "engineered to fit the job."

Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY
TIDE WATER DIVISION, 17 BATTERY PLACE
New York, N. Y.

GREEN CAST GREASES

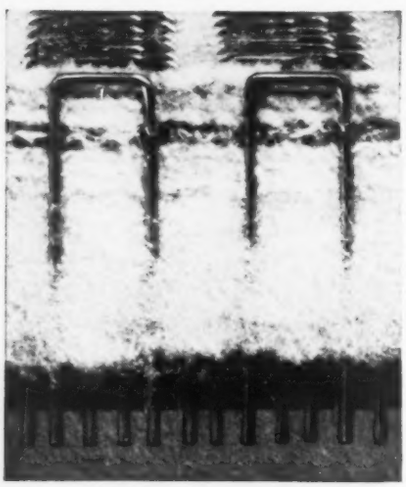
SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE

TUFFERIZED Card Clothing

PATENT APPLIED FOR

is as uniform as the Georgia State All Girl Military Band

Georgia State Girls' Military Band—Organizer and Leader, Colonel Jack Taylor



Microphotograph shows how Tufferized Card Clothing wires seat square, flat, and firmly into the foundation with wires parallel..even in length..spaced uniformly

NEW methods in the preparation of TUFFERIZED Card Clothing make wires stand in military formation. Arranging TUFFERIZED Card Clothing requires attention to measure, pitch, harmony and unity. There can be no discordance. Every wire must be straight, even in length, and uniform in spacing. Every crown must be square with short arc in corners to fit flat and firmly into the famous *patented* TUFFER foundation to produce good performance for you.

The improved TUFFERIZED Card Clothing fits firmer on your rolls and permits more accurate setting from beginning to end of your card. TUFFERIZED Card Clothing needs less grinding and remains in positive position for longer service.

Write for additional information or ask our representative

HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: **WORCESTER, MASS.**

Southern Plants: Atlanta, Ga.; Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas

Canadian Agents: Colwool Accessories, Ltd., Toronto 2, Canada

---

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strikles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted Eye and Regular Wire Heddles.

GREATER STABILITY IN LONG-TIME SERVICE

"IT'S the persistence of quality that counts in an oil," says this operating manager. "We can buy plenty of oils with satisfactory characteristics as purchased, but this Gulf lubricant is the only one we have found that *retains its essential qualities* in long-time service. Its stability is truly remarkable."

Here's the real advantage you get when you use Gulf's higher quality oils: Their greater stability is reflected in the operation of your equipment. These better oils help plant men step up production schedules, cut down costs of machine operation. Savings in maintenance alone often exceed the total cost of the lubricants.

If you are not entirely satisfied with your plant production—from the standpoint of quality, quantity, or *costs*—we suggest that you ask a Gulf engineer to check over your equipment and recommend improved lubrication practice. He works tactfully with plant men, has a keen appreciation of their problems, and will help you make operating improvements all along the line. This cooperative service is extended to plant operators without extra charge.

Gulf's higher quality lubricants are quickly available to you through more than 1100 warehouses in 30 states from Maine to Texas. Write or 'phone your nearest distributing point today . . . Gulf Oil Corporation—Gulf Refining Company, Gulf Building, Pittsburgh, Pa.

GULF INDUSTRIAL LUBRICATION

A COMPLETE LINE OF MORE THAN 400 OILS AND GREASES FOR INDUSTRY

IT COST US $4,000–

but will more than pay for itself the first year!

ANOTHER SUCCESS STORY FEATURING TAYLOR AUTOMATIC SLASHER CONTROL

SAID *a North Carolina Mill executive in a south-bound club car the other day:* "Mills today are putting slasher control on a more scientific basis. We recently installed a complete Taylor Slasher Control System in our mill. Yes . . . it cost us around $4,000, but it will more than pay us back before next year!

"Taylor engineers did a wonderful job of investigating our needs, supervising the installation, and making sure the job turned out satisfactorily for us. We are completely satisfied with this Taylor Control!"

* * *

This is a typical example of the modernization control that's taking place in the textile business today. There are other examples. For instance . . .

Another mill, taking advantage of a Taylor Slasher Control System for the first year, reports savings of $2,250 in steam and size—alone! They also cut loom stops 21–32%, increased weave room production 1–2%, and got a more uniform warp, a more *salable* cloth!

You, too, can make savings like these—in proportion to the size of your mill—with a Taylor System of Slasher Control. That's because inexact temperature regulation is most likely eating away your profits, too. So cut *your* slasher costs and standardize *your* fabric quality the Taylor way. You'll find this Taylor Control is quick to pay for itself.

So let a Taylor representative give you more details. There's no obligation. Write Taylor Instrument Companies, Rochester, N.Y. Plant also in Toronto, Canada. Manufacturers in Great Britain: Short & Mason, Ltd., London, Eng.

The end of Slasher troubles—for you! This precision instrument — a Taylor Recording Fulscope Controller—is the heart of a Taylor Control System. It is easily adjusted to maintain any slasher temperature you want. It writes a handy-to-file record of its accurate control.

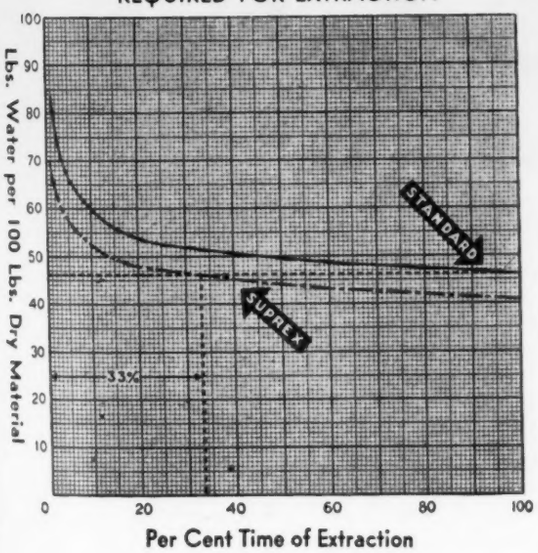
Taylor

Indicating Recording Controlling

TEMPERATURE, PRESSURE, FLOW *and* **LEVEL INSTRUMENTS**

PUSH THIS BUTTON . . . and this new Suprex will DO THE WORK of 2-3 OTHER EXTRACTORS

CHART SHOWING REDUCTION IN TIME REQUIRED FOR EXTRACTION



(From actual test data) In this chart, the range of hydro-extraction normally covered in operation is shown. The performance of a standard extractor is compared with that of SUPREX. The average time of operation is represented by 100% time of extraction. It is shown that a standard extractor produced acceptable results in 100% extraction time, while the horizontal dashed line shows that equal results were obtained by the SUPREX in 33% of the time required by the standard machine.

150% TO 230% GREATER OUTPUT

This new Tolhurst SUPREX doubles, even trebles, the production of standard extractors! Yarns, raw wool, cotton knit goods—loads that ordinarily require fifteen minutes to extract—can now be dried in five to seven minutes. Proportionate reductions in extracting time can be made with other materials regardless of fibre, stage of conversion or weave. The SUPREX saves not only time—it saves labor handling, current and operating costs. Get full facts about this remarkable extractor. Tear off coupon—mail it today.

SEND FOR THIS FOLDER

Greater basket capacity . . . easier loading and unloading . . . the only open-top extractor with free-floating basket . . . an extractor that operates without vibration, without harm to fibre . . . these and dozens of other points about the SUPREX are fully described in this folder.

TOLHURST CENTRIFUGAL DIVISION

American Machine & Metals, Inc.

EAST MOLINE, ILLINOIS

NEW YORK • CHICAGO • SAN FRANCISCO

TOLHURST CENTRIFUGAL DIVISION
EAST MOLINE, ILLINOIS
Send me SUPREX Bulletin

Name .....
Mill .....
Street .....
City ..... State .....

ALL LINED UP . . .

. . . against SALT CORROSION

What is the most common cause of corrosion in dyehouse equipment? Just the *common* salt you put in your dye tanks. So when you put salt in, make sure you put it into Monel. • Against Monel, salt and brine are well-nigh powerless. This strong, tough metal resists their destructive attack. It *cannot* rust, and it stands off corrosion for years. That is why you find Monel in food plants, in sea-going ships, from beginning to end of salt refineries . . . *and every place else where corrosion by salt is severe.* • Because Monel is also wear resistant and long-lived . . . and is resistant to corrosion by dyehouse liquors . . . it assures years of trouble-free dyeing at minimum cost. Write for further information on Monel for dyehouse equipment. Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York, N. Y.

MONEL

Upper photo shows partial view of eight Monel-lined dye tanks in use in an eastern plant. Rolls, reels, baffle plates, heating units and tie rods are also made of Monel. Lower photo shows close-up of Monel lining after more than ten years' use.

"Monel" is a registered trade-mark of The International Nickel Company, Inc., which is applied to a nickel alloy containing approximately two-thirds nickel and one-third copper.